FORM 3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL						
					1. WELL NAME and NUMBER NBU 922-32J4CS	
2. TYPE OF WORK DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○					**3. FIELD OR WILDCAT** NATURAL BUTTES	
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO					**5. UNIT or COMMUNITIZATION AGREEMENT NAME** NATURAL BUTTES	
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.					**7. OPERATOR PHONE** 720 929-6587	
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217					**9. OPERATOR E-MAIL** mary.mondragon@anadarko.com	
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML 22649		**11. MINERAL OWNERSHIP** FEDERAL ○ INDIAN ○ STATE ◉ FEE ○			**12. SURFACE OWNERSHIP** FEDERAL ○ INDIAN ○ STATE ◉ FEE ○	
13. NAME OF SURFACE OWNER (if box 12 = 'fee')					**14. SURFACE OWNER PHONE (if box 12 = 'fee')**	
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')					**16. SURFACE OWNER E-MAIL (if box 12 = 'fee')**	
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		**18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS** YES ◉ (Submit Commingling Application) NO ○			**19. SLANT** VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○	

20. LOCATION OF WELL	**FOOTAGES**	**QTR-QTR**	**SECTION**	**TOWNSHIP**	**RANGE**	**MERIDIAN**
LOCATION AT SURFACE	1453 FSL 2398 FEL	NWSE	32	9.0 S	22.0 E	S
Top of Uppermost Producing Zone	1463 FSL 1902 FEL	NWSE	32	9.0 S	22.0 E	S
At Total Depth	1463 FSL 1902 FEL	NWSE	32	9.0 S	22.0 E	S

21. COUNTY UINTAH	**22. DISTANCE TO NEAREST LEASE LINE (Feet)** 1463	**23. NUMBER OF ACRES IN DRILLING UNIT** 640
	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 500	**26. PROPOSED DEPTH** MD: 9167 TVD: 9130
27. ELEVATION - GROUND LEVEL 4961	**28. BOND NUMBER**	**29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE** Permit #43-8496

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORCANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

☑ **WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER**	☑ **COMPLETE DRILLING PLAN**
☐ **AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)**	☐ **FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER**
☑ **DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)**	☑ **TOPOGRAPHICAL MAP**

NAME Kathy Schneebeck-Dulnoan	**TITLE** Staff Regulatory Analyst	**PHONE** 720 929-6007
SIGNATURE	**DATE** 07/08/2009	**EMAIL** Kathy.SchneebeckDulnoan@anadarko.com

API NUMBER ASSIGNED
43047504460000

APPROVAL

Permit Manager

Proposed Hole, Casing, and Cement						
String	**Hole Size**	**Casing Size**	**Top (MD)**	**Bottom (MD)**		
Prod	7.875	4.5	0	9167		
Pipe	**Grade**	**Length**	**Weight**			
	Grade I-80 LT&C	9167	11.6			

Proposed Hole, Casing, and Cement						
String	**Hole Size**	**Casing Size**	**Top (MD)**	**Bottom (MD)**		
Surf	12.25	9.625	0	2185		
Pipe	**Grade**	**Length**	**Weight**			
	Grade J-55 LT&C	2185	36.0			

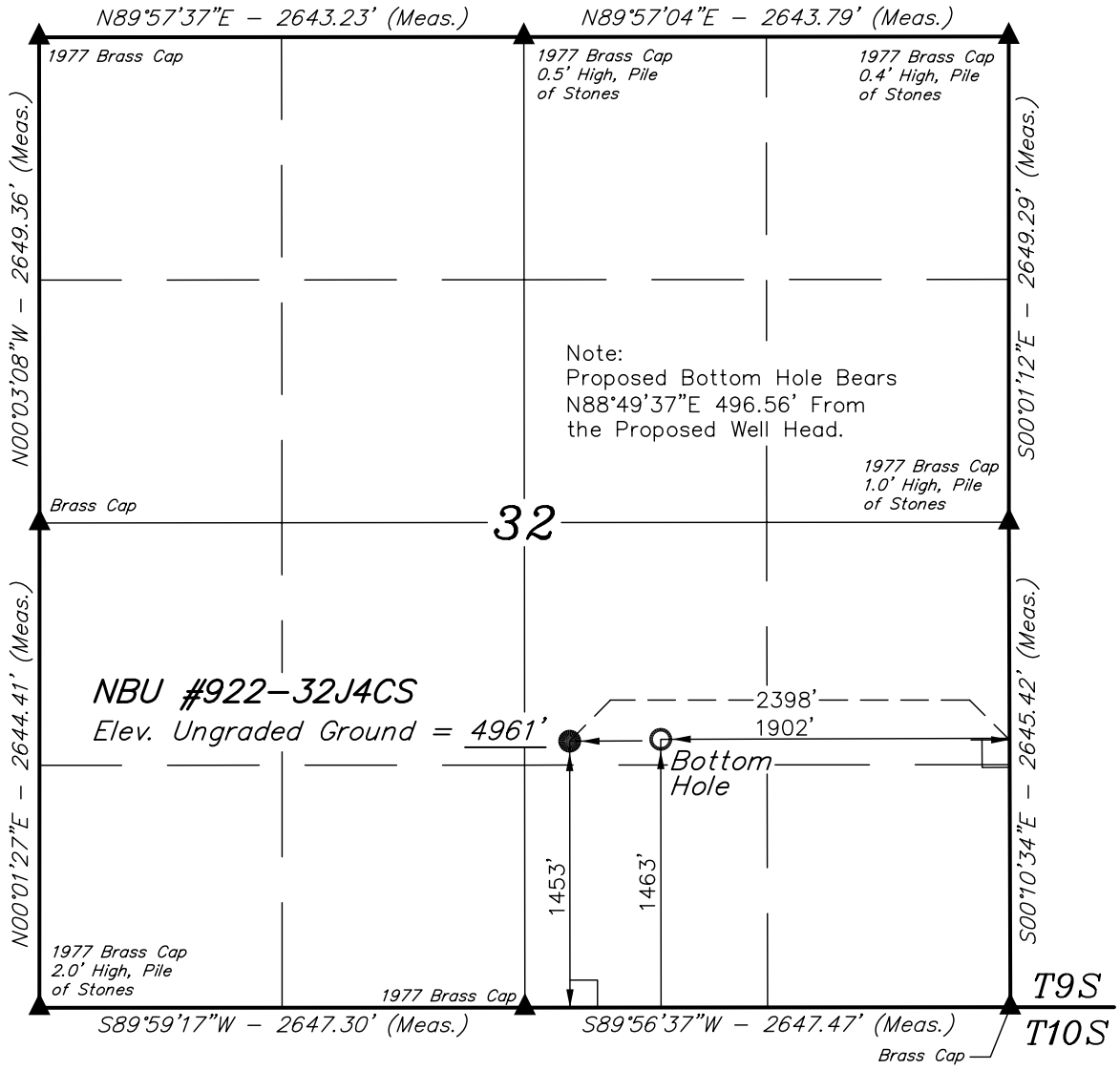
T9S, R22E, S.L.B.&M.

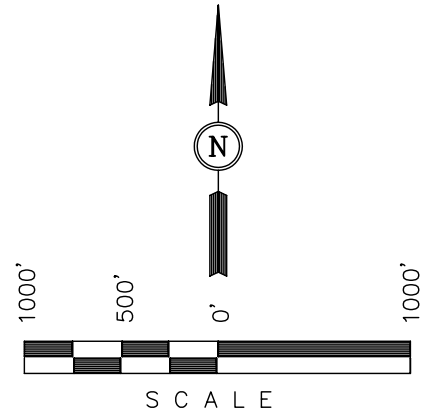
Kerr-McGee Oil & Gas Onshore LP

Well location, NBU #922-32J4CS, located as shown in the NW 1/4 SE 1/4 of Section 32, T9S, R22E, S.L.B.&M., Uintah County, Utah.

BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.





CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 161319
STATE OF UTAH

REVISED: 1-6-09

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°59'21.37" (39.989269)	LATITUDE = 39°59'21.27" (39.989242)
LONGITUDE = 109°27'40.30" (109.461194)	LONGITUDE = 109°27'46.68" (109.462967)
NAD 27 (TARGET BOTTOM HOLE)	**NAD 27 (SURFACE LOCATION)**
LATITUDE = 39°59'21.50" (39.989306)	LATITUDE = 39°59'21.40" (39.989278)
LONGITUDE = 109°27'37.84" (109.460511)	LONGITUDE = 109°27'44.22" (109.462283)

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE	DATE SURVEYED:	DATE DRAWN:
1" = 1000'	11-26-08	12-10-08
PARTY: D.K. L.K. S.P.	REFERENCES: G.L.O. PLAT	
WEATHER: COLD	FILE: Kerr-McGee Oil & Gas Onshore LP	

'APIWellNo:43047504460000'

NBU 922-32J4CS

Pad: NBU 922-32J
Surface: 1,453' FSL, 2,398' FEL (NW/4SE/4)
BHL: 1,463' FSL 1,902' FEL (NW/4SE/4)
Sec. 32 T9S R22E

Uintah, Utah
Mineral Lease: ML22649

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. – 2. Estimated Tops of Important Geologic Markers:
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 – Surface	
Green River	1,185'	
Birds Nest	1,515'	Water
Mahogany	1,985'	Water
Wasatch	4,395'	Gas
Mesaverde	6,957'	Gas
MVU2	7,797'	Gas
MVL1	8,432'	Gas
TVD	9,130'	
TD	9,167'	

3. Pressure Control Equipment (Schematic Attached)

Please refer to the attached Drilling Program.

4. Proposed Casing & Cementing Program:

Please refer to the attached Drilling Program.

5. Drilling Fluids Program:

Please refer to the attached Drilling Program.

6. Evaluation Program:

Please refer to the attached Drilling Program.

7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 9,167' TD, approximately equals 5,404 psi (calculated at 0.59 psi/foot).

Maximum anticipated surface pressure equals approximately 3,395 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements
The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements
Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion
The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

'APIWellNo:43047504460000'

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	May 27, 2009	
WELL NAME	**NBU 922-32J4CS**		TD	9,130' TVD	9,167' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah	ELEVATION	4,961' GL KB 4,976'
SURFACE LOCATION	NW/4 SE/4 1,453' FSL	2,398' FEL	Sec 32	T 9S	R 22E
	Latitude: 39.989278	Longitude: -109.462283			NAD 27
BTM HOLE LOCATION	NW/4 SE/4 1,463' FSL	1,902' FEL	Sec 32	T 9S	R 22E
	Latitude: 39.989306	Longitude: -109.460511			NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), Tri-County Health Dept.				

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		20'		14"	
			12-1/4"	9-5/8", 36#, J-55, LTC	Air mist

All water flows encountered while drilling will be reported to the appropriate agencies.

Green River @ 1,185'

Top of Birds Nest @ 1,515

Mahogany @ 1,985

Preset f/ GL @ 2,185' MD

Note: 12.25" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @ 4,395'

Mud logging program TBD

Cased hole logging program from TD - surf csg

7-7/8"	4-1/2" 11.6# I-80 or equivalent LTC csg	Water / Fresh Water Mud 8.3-11.6 ppg

Mverde @ 6,957' TVD

MVU2 @ 7,797' TVD

MVU1 @ 8,432' TVD

Max anticipated Mud required 11.6 ppg

TD @ 9,130' TVD 9,167' MD

'APIWellNo:43047504460000'

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	DESIGN FACTORS COLLAPSE	DESIGN FACTORS TENSION
CONDUCTOR	14"	0-40'								
								3520	2020	453000
SURFACE	9-5/8"	0	to	2,185	36.00	J-55	LTC	1.00	1.98	7.33
								7,780	6,350	201,000
PRODUCTION	4-1/2"	0	to	9,167	11.60	I-80	LTC	2.22	1.15	2.17

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
(Burst Assumptions: TD = 11.6 ppg) 0.22 psi/ft = gradient for partially evac wellbore
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MASP 3,395 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
(Burst Assumptions: TD = 11.6 ppg) 0.59 psi/ft = bottomhole gradient
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MABHP 5,404 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE		**NOTE: If well will circulate water to surface, option 2 will be utilized**					
Option 2	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
			+.25 pps Flocele + 3% salt BWOW				
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,887'	Premium Lite II + 3% KCl + 0.25 pps	370	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,280'	50/50 Poz/G + 10% salt + 2% gel	1290	40%	14.30	1.31
			+.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

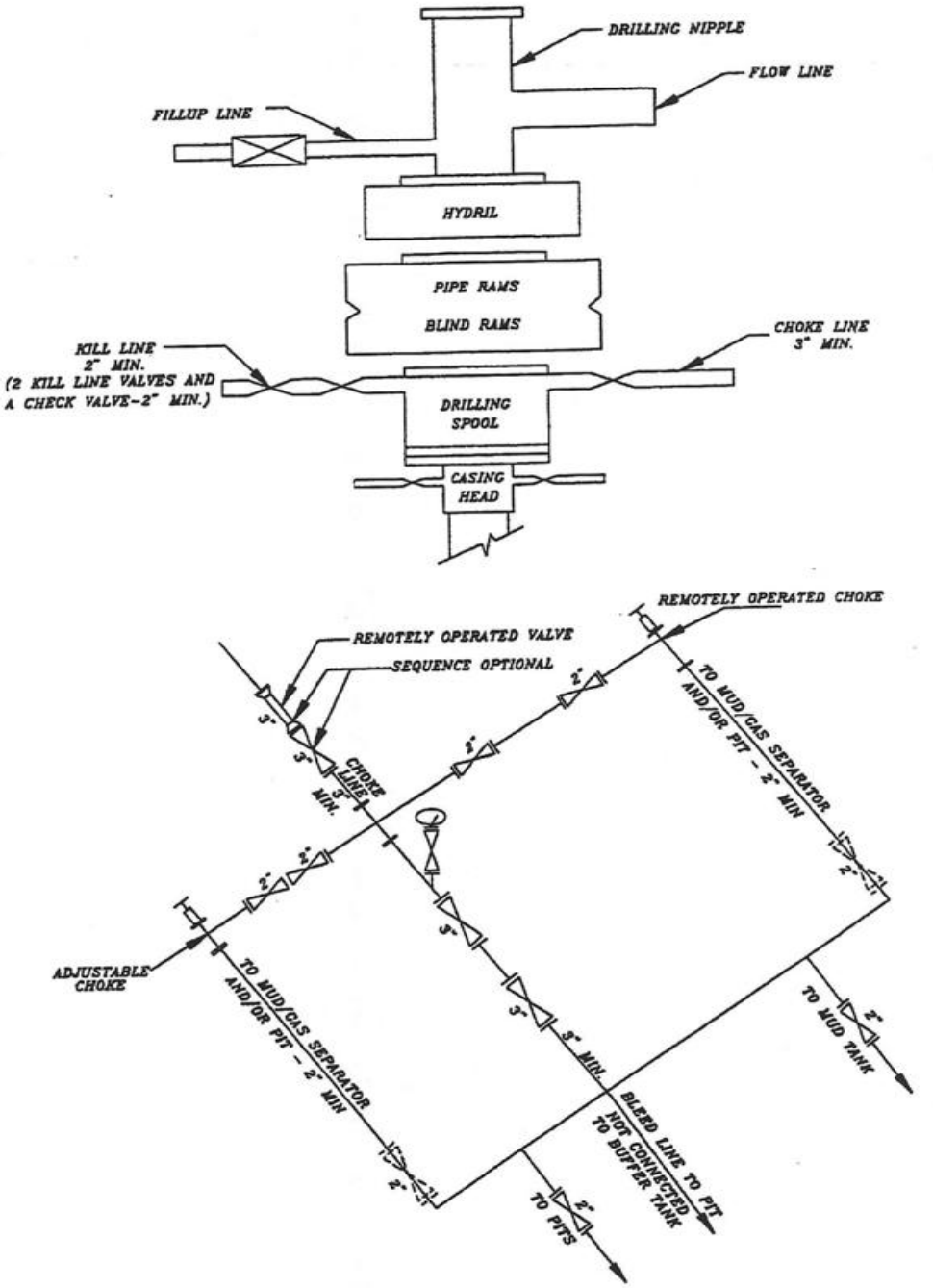
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: _____ **DATE:** _____
John Huycke / Grant Schluender

DRILLING SUPERINTENDENT: _____ **DATE:** _____
John Merkel / Lovel Young

’APIWellNo:43047504460000’

EXHIBIT A
NBU 922-32J4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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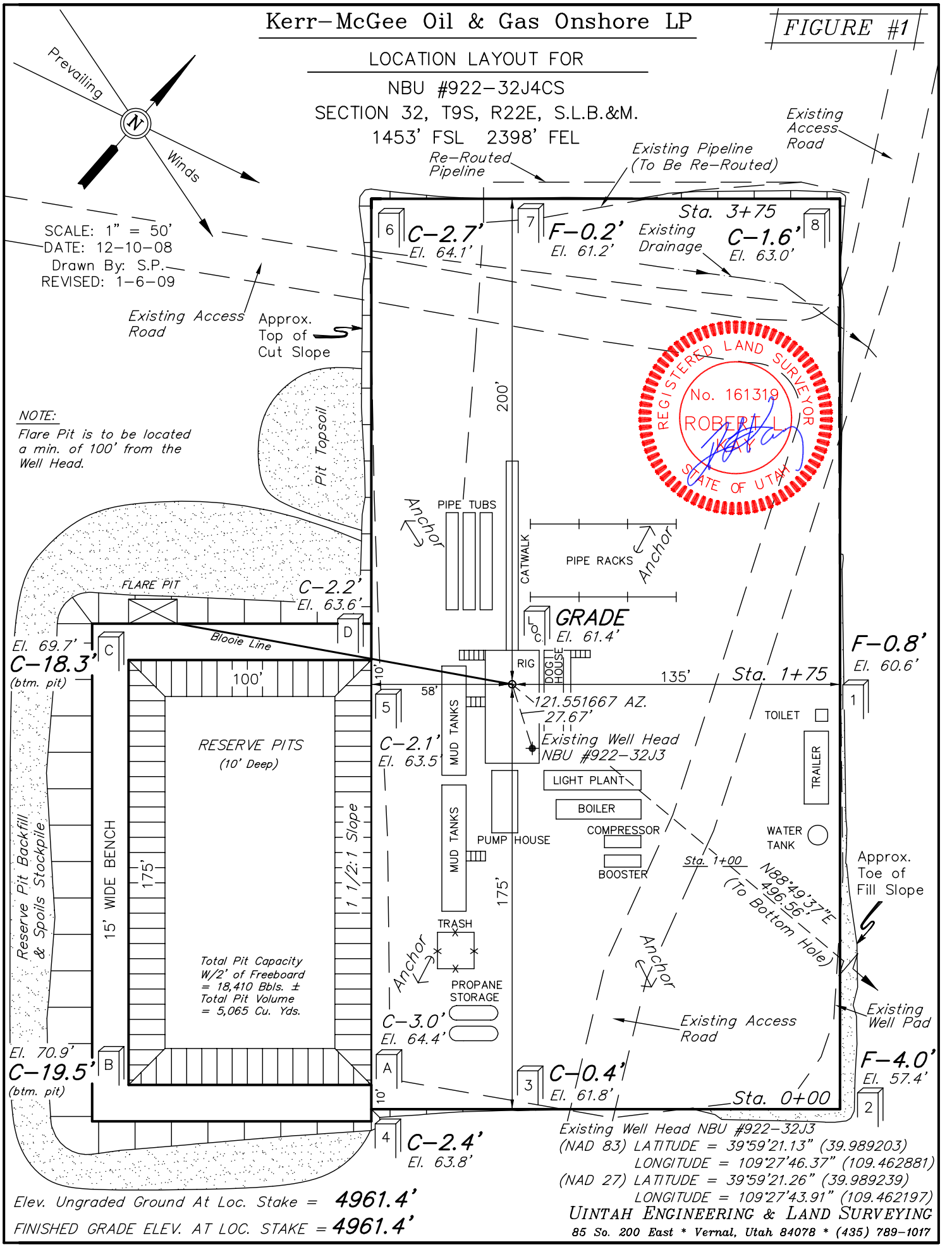

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Kerr-McGee Oil & Gas Onshore LP

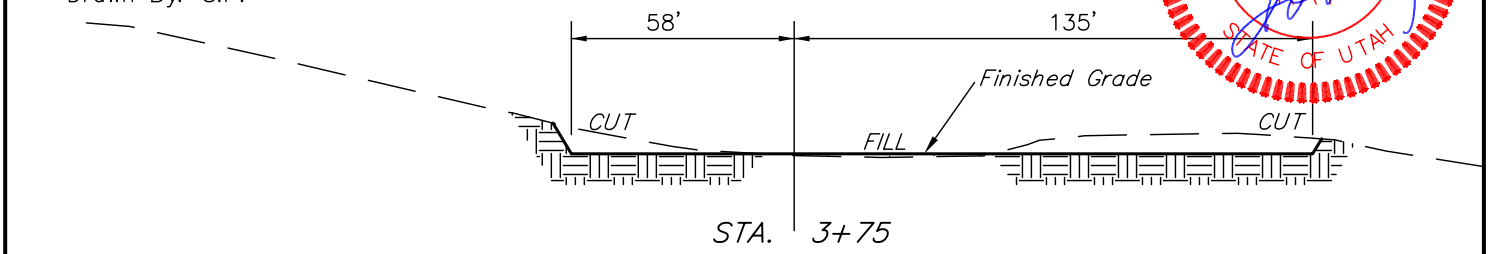
FIGURE #2

TYPICAL CROSS SECTIONS FOR

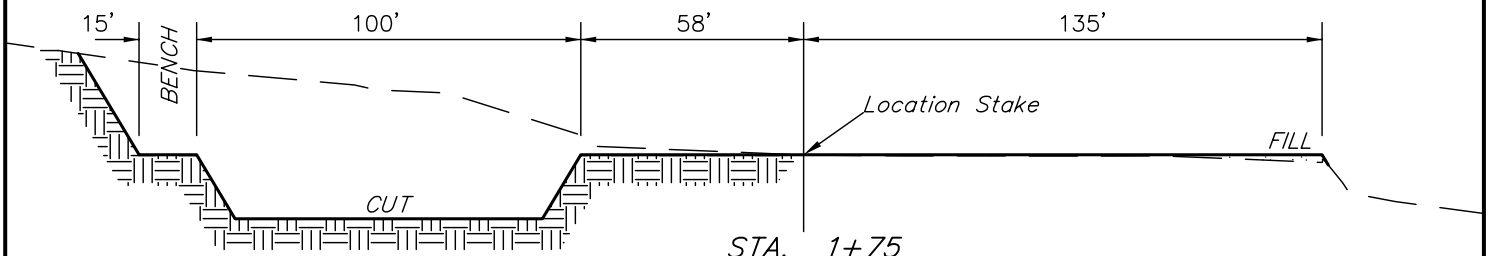
NBU #922-32J4CS
SECTION 32, T9S, R22E, S.L.B.&M.
1453' FSL 2398' FEL

1" = 20'
X-Section Scale
1" = 50'
DATE: 12-10-08
Drawn By: S.P.

REGISTERED LAND SURVEYOR
No. 161319
ROBERT L. KAY
STATE OF UTAH



STA. 3+75



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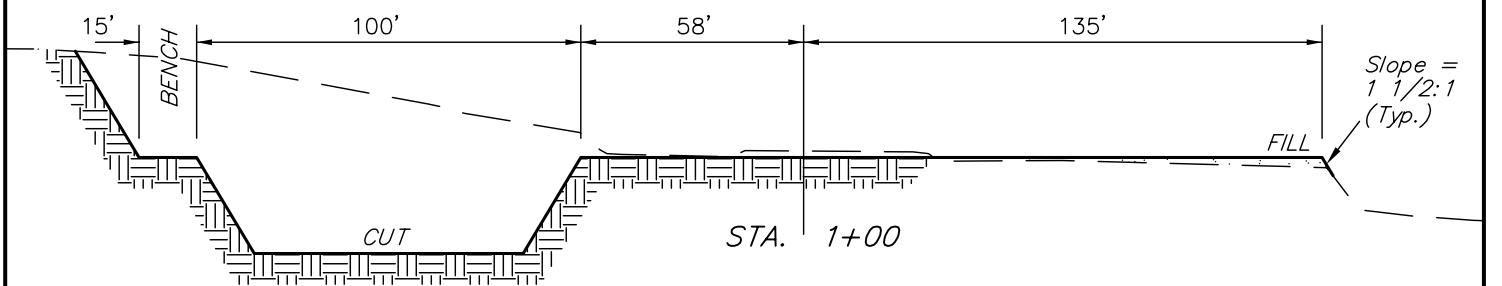
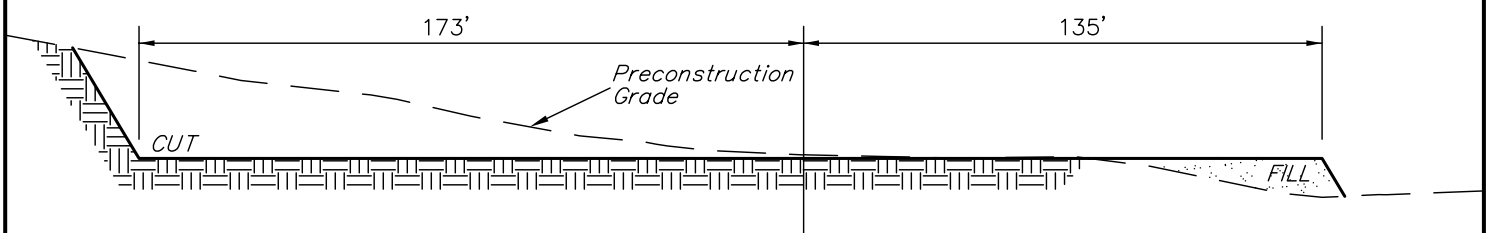


STA. 1+00



STA. 0+00

NOTE:
Topsoil should not be Stripped Below Finished Grade on Substructure Area.

APPROXIMATE ACREAGES

EXISTING WELL SITE DISTURBANCE = ± 1.460 ACRES
PROPOSED WELL SITE DISTURBANCE = ± 1.230 ACRES
PROPOSED PIPELINE DISTANCE = ± 0.114 ACRES
TOTAL = ± 2.804 ACRES

* NOTE:
FILL QUANTITY INCLUDES 5% FOR COMPACTION

APPROXIMATE YARDAGES

(6") Topsoil Stripping	=	1,990 Cu. Yds.
Remaining Location	=	12,910 Cu. Yds.
TOTAL CUT	=	14,900 CU.YDS.
FILL	=	480 CU.YDS.

EXCESS MATERIAL	=	14,420 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	4,520 Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	=	9,900 Cu. Yds.

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

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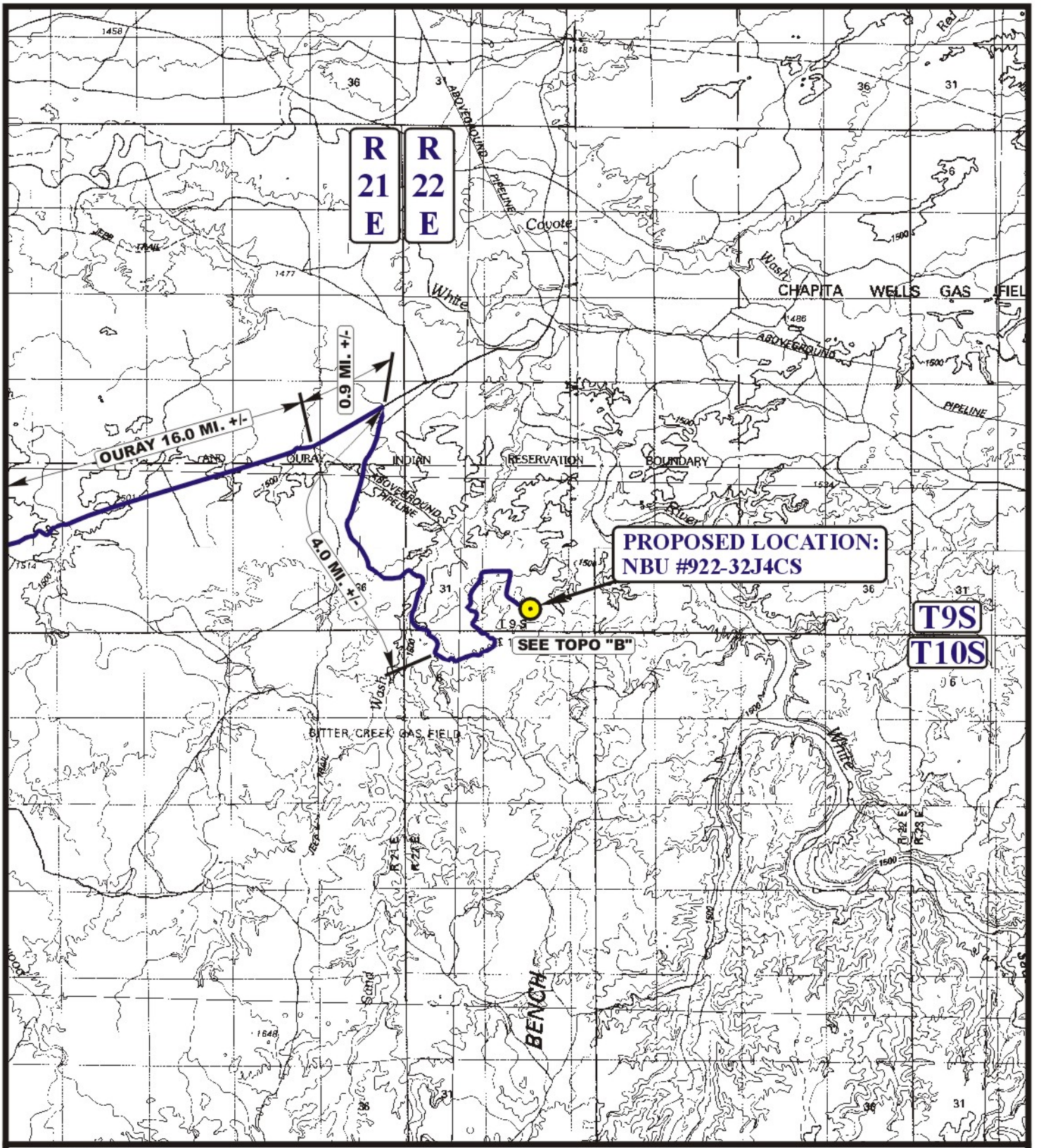


LEGEND:

PROPOSED LOCATION

N

Kerr-McGee Oil & Gas Onshore LP

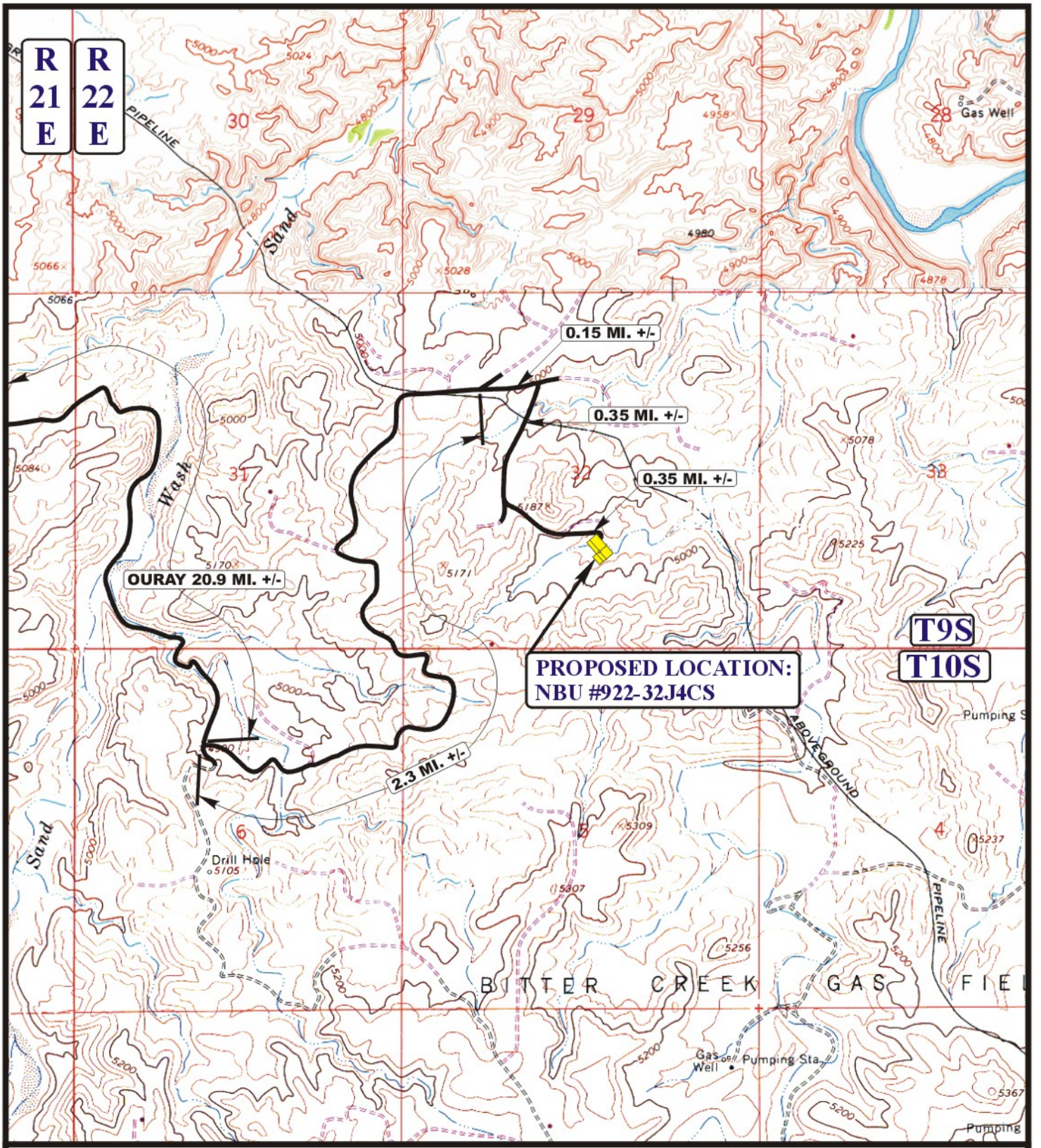
NBU #922-32J4CS
SECTION 32, T9S, R22E, S.L.B.&M.
1453' FSL 2398' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP | 12 MONTH | 05 DAY | 08 YEAR | A TOPO

SCALE: 1:100,000 | DRAWN BY: J.H. | REVISED: 00-00-00

'APIWellNo:43047504460000'



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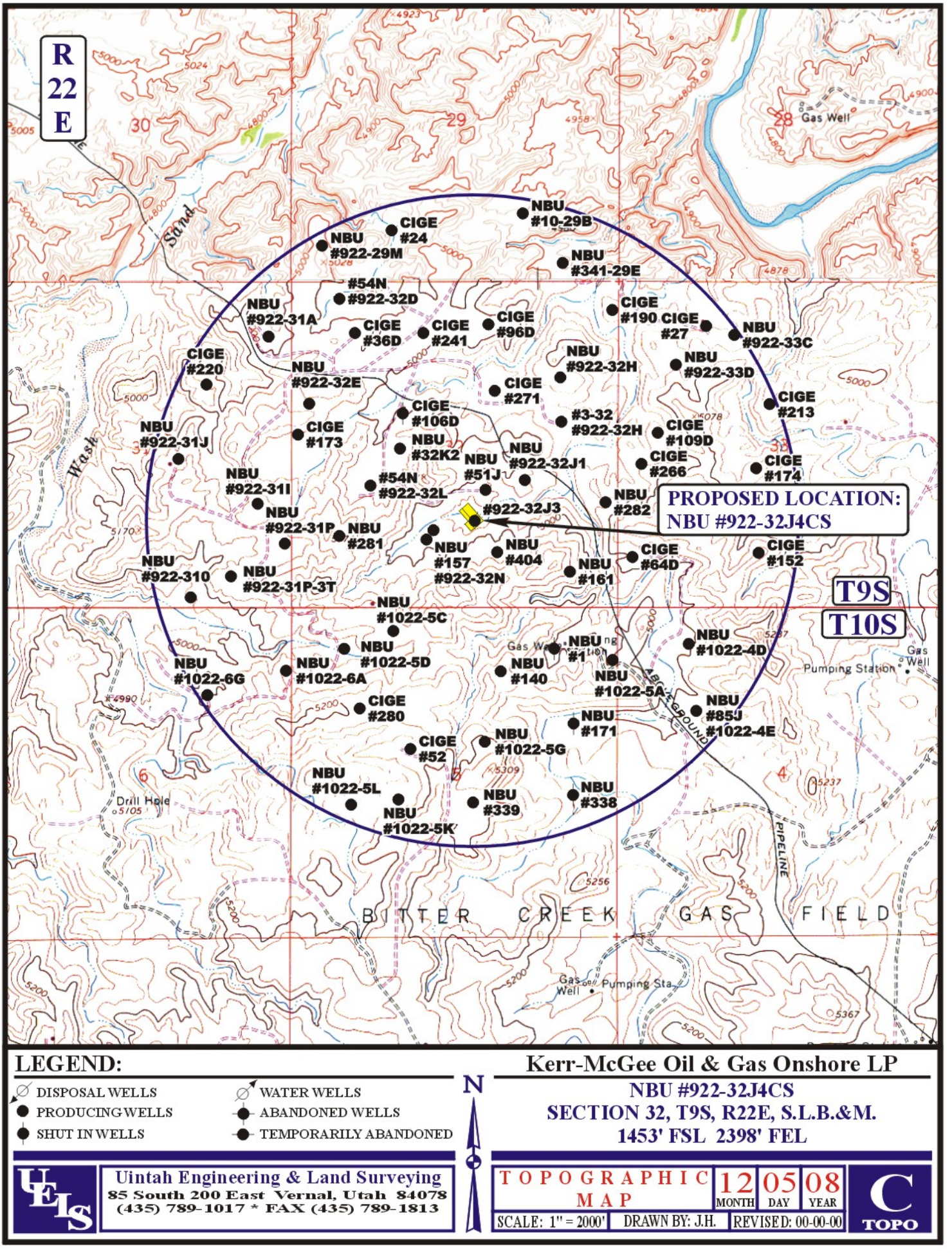


LEGEND:

- DISPOSAL WELLS
- WATER WELLS
- PRODUCING WELLS
- ABANDONED WELLS
- SHUT IN WELLS
- TEMPORARILY ABANDONED

N

Kerr-McGee Oil & Gas Onshore LP

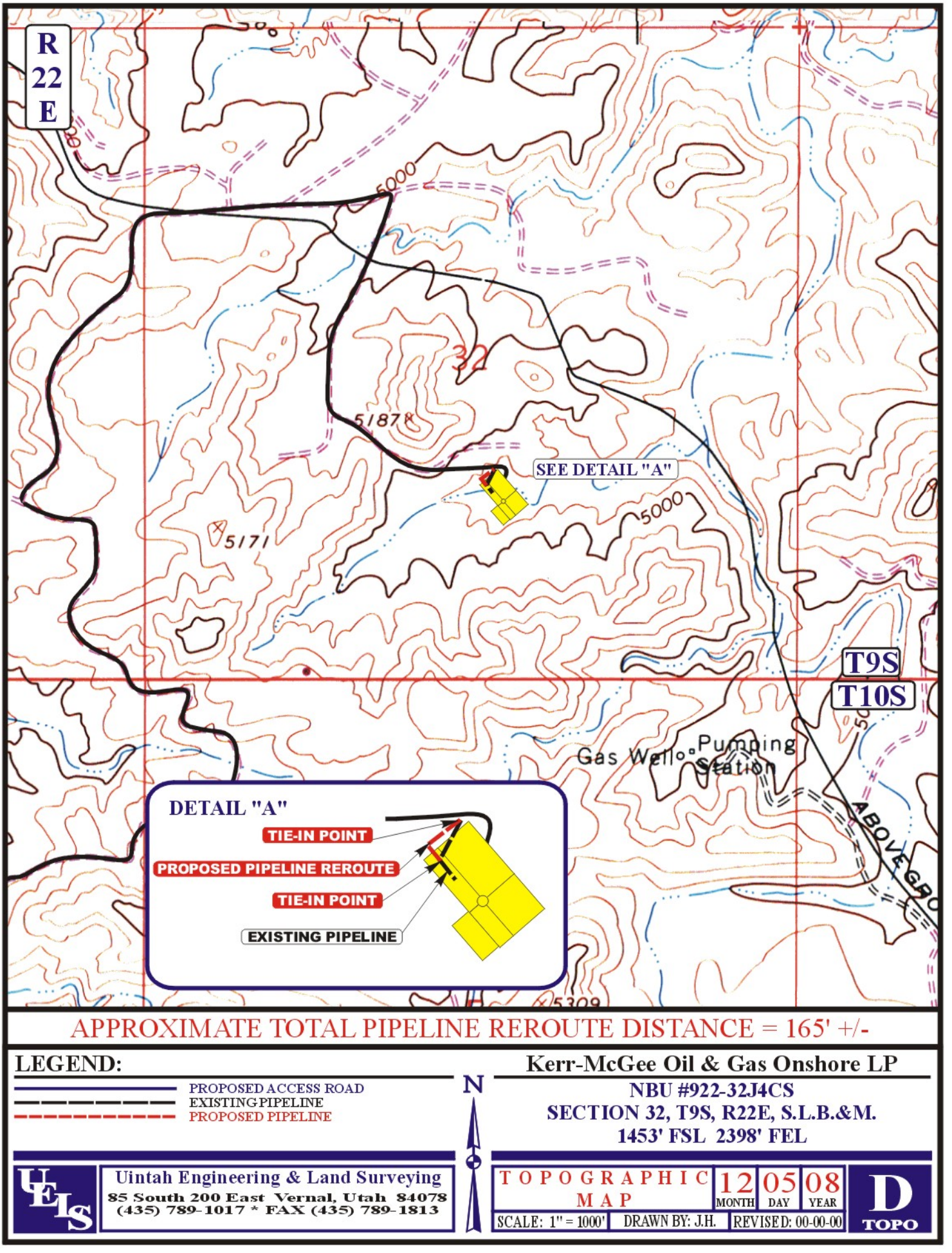
NBU #922-32J4CS
SECTION 32, T9S, R22E, S.L.B.&M.
1453' FSL 2398' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP | 12 MONTH | 05 DAY | 08 YEAR | C TOPO

SCALE: 1" = 2000' | DRAWN BY: J.H. | REVISED: 00-00-00

’APIWellNo:43047504460000’



APPROXIMATE TOTAL PIPELINE REROUTE DISTANCE = 165' +/-

LEGEND:

PROPOSED ACCESS ROAD
EXISTING PIPELINE
PROPOSED PIPELINE

N

Kerr-McGee Oil & Gas Onshore LP

NBU #922-32J4CS
SECTION 32, T9S, R22E, S.L.B.&M.
1453' FSL 2398' FEL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

TOPOGRAPHIC MAP | 12 MONTH | 05 DAY | 08 YEAR

SCALE: 1" = 1000' | DRAWN BY: J.H. | REVISED: 00-00-00

D TOPO

’APIWellNo:43047504460000’

Kerr-McGee Oil & Gas Onshore LP

NBU #922-32J4CS

LOCATED IN UINTAH COUNTY, UTAH
SECTION 32, T9S, R22E, S.L.B.&M.

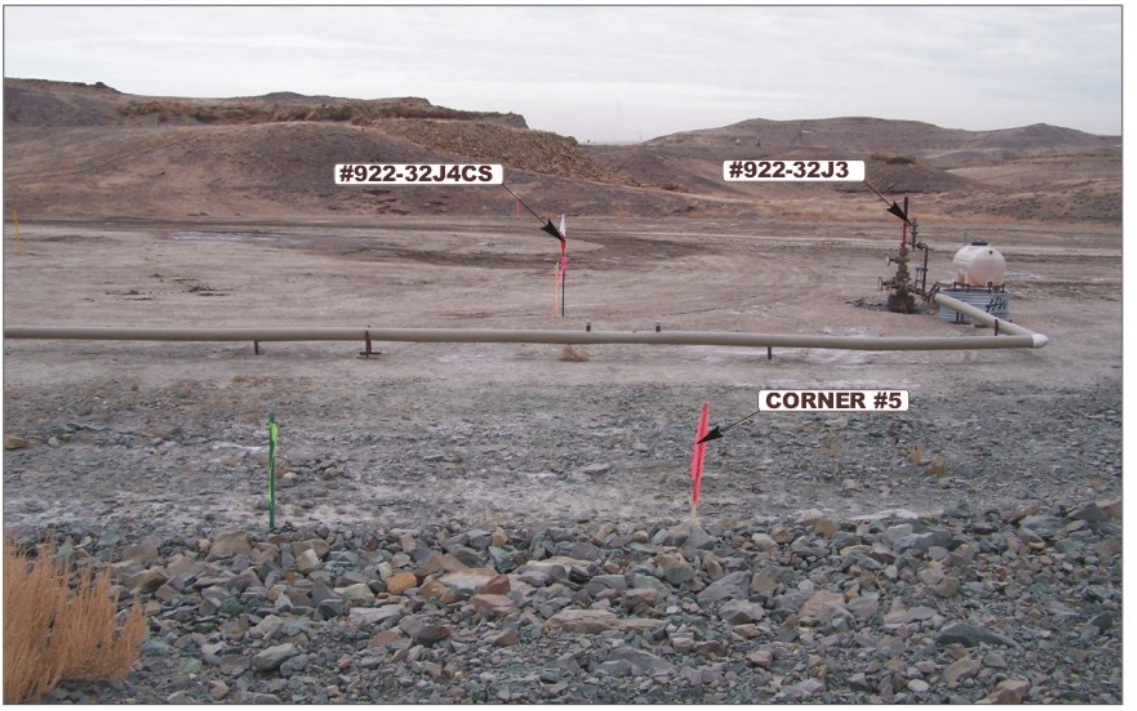


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE — CAMERA ANGLE: NORTHEASTERLY

PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS — CAMERA ANGLE: SOUTHEASTERLY

- Since 1964 -
Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813

LOCATION PHOTOS	12 MONTH	05 DAY	08 YEAR	PHOTO
TAKEN BY: D.K.	DRAWN BY: J.H.	REVISED: 00-00-00		

Kerr-McGee Oil & Gas Onshore LP
NBU #922-32J4CS
SECTION 32, T9S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 6.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY DIRECTION APPROXIMATELY 5.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION APPROXIMATELY 0.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; TURN RIGHT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 3.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHEAST; PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 0.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 4.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 2.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN RIGHT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 0.15 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 0.35 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.35 MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 55.05 MILES.

Kerr-McGee Oil & Gas Onshore LP

NBU 922-32J4CS
Pad: NBU 922-32J
Surface: 1,453' FSL, 2,398' FEL (NW/4SE/4)
BHL: 1,463' FSL 1,902' FEL (NW/4SE/4)
Sec. 32 T9S R22E

Section 32 Township 9 South Range 22 East
Pad: NBU 922-32J
Uintah, Utah
Surface: State
Mineral Lease: ML22649

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN

Directional Drilling:

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

1. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

2. Planned Access Roads:

Approximately ±0.0 mi. (±0') of new access road is proposed. Please refer to the attached Topo Map B.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

4. Location of Existing & Proposed Facilities:

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Shadow Gray, a non-reflective earthtone.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

5. Location and Type of Water Supply:

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

6. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

7. Methods of Handling Waste Materials:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used; it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit. Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI in Sec. 5 T9S R22E, NBU #159 in Sec. 35 T9S R21E, Ace Oilfield in Sec. 2 T6S R20E, MC&MC in Sec. 12 T6S R19E, Pipeline Facility in Sec. 36 T9S R20E, Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E, Bonanza Evaporation Pond in Sec. 2 T10S R23E.

8. Ancillary Facilities:

None are anticipated.

9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

10. Plans for Reclamation of the Surface:

Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water(s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

11. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

12. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Paleontological survey report and a Cultural Resource report is attached.

13. Lessee's or Operators' Representative & Certification:

Kathy Schneebeck Dulnoan
Staff Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6007

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot
Danielle Piernot

May 27, 2009
Date

’APIWellNo:43047504460000’

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS ONSHORE LP’S 46 PROPOSED WELL LOCATIONS (T9S, R22E, SEC. 29, 30, 31, 32, 33, 34; T10S, R22E, SEC. 4) UINTAH COUNTY, UTAH

’APIWellNo:43047504460000’

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS ONSHORE LP’S 46 PROPOSED WELL LOCATIONS (T9S, R22E, SEC. 29, 30, 31, 32, 33, 34; T10S, R22E, SEC. 4) UINTAH COUNTY, UTAH

By:

Nicole Shelnut

Prepared For:

Bureau of Land Management
Vernal Field Office
and
State of Utah
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 08-356

February 26, 2009

United States Department of Interior (FLPMA)
Permit No. 08-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

INTRODUCTION

A Class I literature review was completed by Montgomery Archaeological Consultants, Inc. (MOAC) in February 2009 of Kerr-McGee Onshore's 46 proposed NBU well locations in Township 9S, Range 22E Sections 29, 30, 31, 32, 33, 34: Township 10S, Range 22E, Section 4. The project area is situated west of the White River in the Bitter Creek Gas Field, Uintah County, Utah. The wells are designated NBU 922-29P Directional Pad, NBU 920-29P, NBU 922-29P2DS, NBU 922-29I3DS, NBU 922-29P3AS, NBU 922-29M Directional Pad, NBU 922-29M2CS, NBU 922-29M3CS, NBU 922-29M4DS, NBU 184 (NBU 922-30N) Directional Pad, NBU 922-30N2S, NBU 280, NBU 922-31K-2TX Directional Pad, NBU 922-31F2S, NBU 922-31F3S, NBU 922-31J2S, (NBU 921-31I) Directional Pad, NBU 922-31J3AS, NBU 922-31O1AS, NBU 922-31I3CS, NBU 922-31I4AS, CIGE 106D (NBU 922-32D) Directional Pad, NBU 922-32F3T, NBU 922-32L1S, NBU 922-32K1S, NBU 922-32F2S, NBU 922-32J3 Directional Pad, NBU 922-32J4CS, NBU 922-32IT, NBU 282 Directional Pad, NBU 922-32P1BS, (NBU 922-33D) Directional Pad, NBU 922-33E2DS, NBU 922-33E3AS, NBU 922-33E3DS, NBU 922-33F3DS, NBU 922-33K2, (NBU 1022-4B) Directional Pad, NBU 922-33P2S, NBU 922-33O4S, NBU 922-33N4S, NBU 922-33P3S, (NBU 922-34E) Directional Pad, NBU 922-34C3BS, NBU 922-34D2CS, NBU 922-34D3BS, and (NBU 922-34O) Directional Pad, NBU 922-34P3CS. This document was implemented at the request of Ms. Raleen White, Kerr-McGee Onshore LP, Denver, Colorado.

The purpose of this Class I review is to identify, classify, and evaluate the previously conducted cultural resource inventories and archaeological sites in the project area in order to comply with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and the Utah State Antiquities Act of 1973 (amended 1990).

The project area in which Kerr-McGee Onshore's 46 proposed NBU well locations occur was previously inventoried by MOAC in 2007 for the Class III inventory of Township 9 South, Range 22 East (Montgomery and Dunn 2008) and the Class III inventory of Township 10 South, Range 22 East (Montgomery 2008). A file search was completed by consulting MOAC's Class I existing data review of 459 square miles (293,805 acres) covering the Greater NBU study area between Bonanza and Ouray in Uintah County, northeastern Utah (Patterson et al. 2008). Kerr-McGee Oil & Gas Onshore LP proposes to explore and develop oil and natural gas resources throughout the area. Record searches were performed for this Class I project by Marty Thomas at the Utah State Historic Preservation Office (SHPO) on various dates between June 14, 2006 and January 27, 2007. The results of this Class I data review and Class III inventory indicated that no previously recorded sites occur in the current project area.

DESCRIPTION OF THE PROJECT AREA

The project area is situated west of the White River on both sides of Sand Wash in the Uinta Basin. The legal description is Township 9S, Range 22E, Sections 29, 30, 31, 32, 33, 34; Township 10S, Range 22E, Sections 3 and 4 (Figure 1, Table 1). Land status is public land administered by the Bureau of Land Management (BLM) Vernal Field Office and State of Utah School & Institutional Trust Lands Administration (SITLA).

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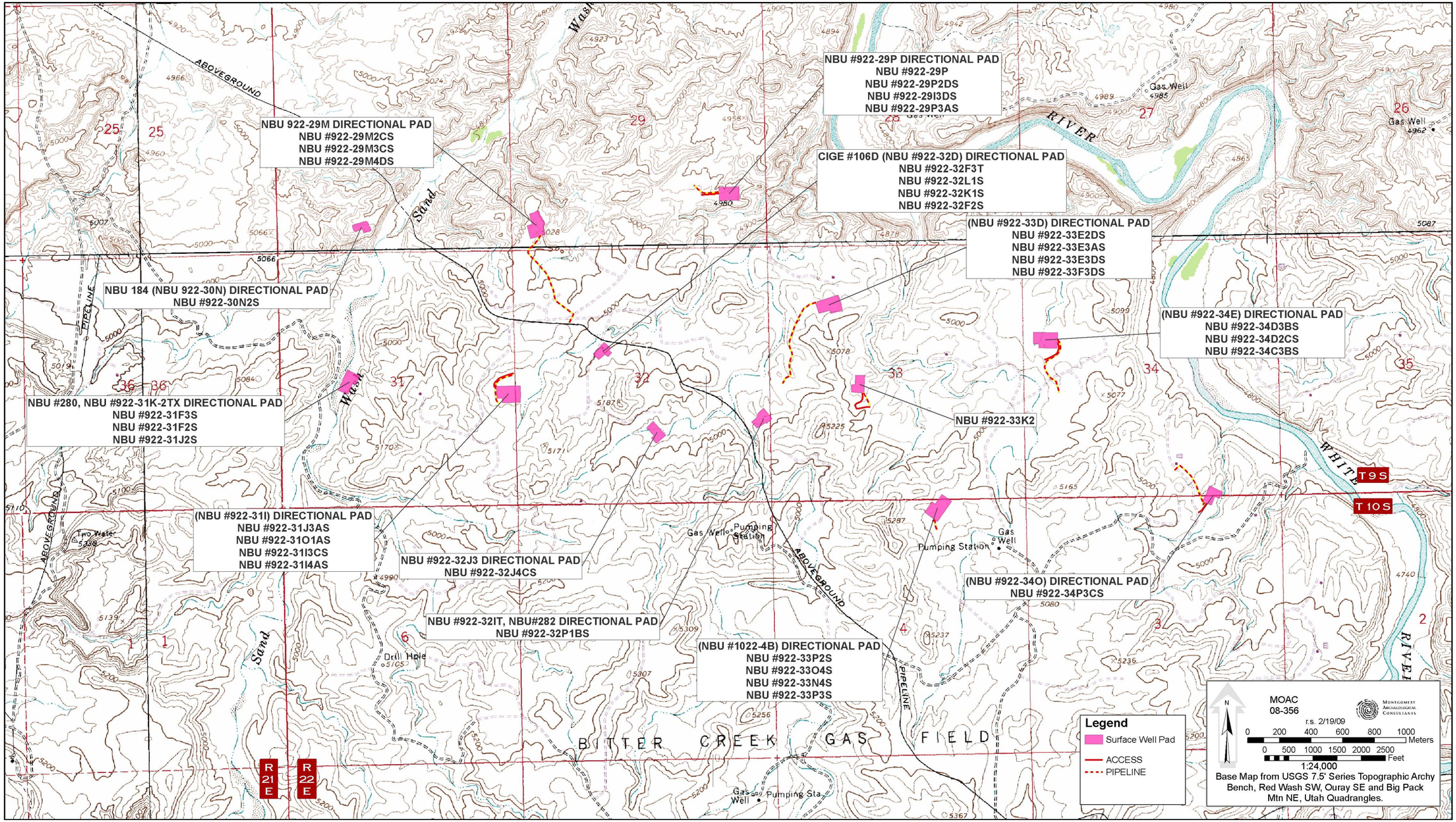

Figure 1. Kerr-McGee Oil and Gas Onshore LP’s Proposed NBU Well Locations in Uintah County, Utah.

Table 1. Kerr-McGee Onshore’s 46 NBU Well Locations.

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
NBU 922-29P Directional Pad NBU 922-29P NBU 922-29P2DS, NBU 922-29I3DS, NBU 922-29P3AS	SE/SE Sec. 29, T9S, R22E	Access: 368 Pipeline: 577	None
NBU 922-29M Directional Pad NBU 922-29M2CS, NBU 922-29M3CS, NBU 922-29M4DS	SW/SW Sec. 29, T9S, R22E	Pipeline: 2296	None
NBU 922-30N Directional Pad NBU 922-30N2S	SE/SW Sec. 30, T9S, R22E	None	None
NBU 280, NBU 922-31K-2TX Directional Pad NBU 922-31F2S, NBU 922-31F3S, NBU 922-31J2S	NE/SW Sec. 31, T9S, R22E	Access: 690 Pipeline: 277	None
(NBU 921-31I) Directional Pad NBU 922-31J3AS, NBU 922-31O1AS, NBU 922-31I3CS, NBU 922-31I4AS	NE/SE Sec. 31, T9S, R22E	Access: 550 ft Pipeline: 815 ft	None
CIGE 106D (NBU 922-32D) Directional Pad NBU 922-32F3T, NBU 922-32L1S, NBU 922-32K1S, NBU 922-32F2S	SE/NW Sec. 32, T9S, R22E	None	None
NBU 922-32J3 Directional Pad NBU 922-32J4CS	NW/SE Sec. 32, T9S, R22E	None	None
NBU 922-32IT, NBU 282 Directional Pad NBU 922-32P1BS	NE/SE Sec.32, T9S, R22E	None	None
(NBU 922-33D) Directional Pad NBU 922-33E2DS, NBU 922-33E3AS, NBU 922-33E3DS, NBU 922-33F3DS	CT/NW Sec. 33, T9S, R22E	Pipeline: 2009 ft	None
NBU 922-33K2	NE/SW Sec. 33, T9S, R22E	Access: 690 Pipeline: 277	None
(NBU 922-34E) Directional Pad NBU 922-34C3BS, NBU 922-34D2CS, NBU 922-34D3BS	SW/NW Sec. 34, T9S, R22E	Access: 537 ft Pipeline: 1356 ft	None
(NBU 922-34O) Directional Pad NBU 922-34P3CS	SW/SE Sec. 34, T9S, R22E	Access: 263 ft Pipeline: 1120 ft	None

Well Designation	Legal Description	Access/Pipeline Corridor	Cultural Resources
(NBU 1022-4B) Directional Pad NBU 922-33P2S, NBU 922-33O4S, NBU 922-33N4S, NBU 922-33P3S	NW/NE Sec. 4, 10S, R22E	Access: 67 ft Pipeline: 196 ft	None

The study area lies within the Uinta Basin physiographic unit, a distinctly bowl-shaped geologic structure (Stokes 1986:231). The Uinta Basin ecosystem is within the Green River drainage, considered to be the northernmost extension of the Colorado Plateau. The geology is comprised of Tertiary age deposits, which include Paleocene age deposits and Eocene age fluvial and lacustrine sedimentary rocks. The Uinta Formation, which is predominate in the project area, occurs as eroded outcrops (formed by fluvial deposited, stream laid interbedded sandstone and mudstone), and is known for its prolific paleontological localities. Specifically, the inventory area is situated west of the White River on both sides of Sand Wash in Uintah County, Utah. Elevation ranges from 4900 to 5040 ft asl. The project occurs within the Upper Sonoran Desert Shrub Association which includes sagebrush, shadscale, greasewood, mat saltbush, snakeweed, rabbitbrush, and prickly pear cactus. Modern disturbances include livestock grazing, roads, and oil/gas development.

CLASS I RESULTS AND RECOMMENDATIONS

The Class I literature review of Kerr-McGee Onshore's 46 proposed well locations and associated pipeline corridors in Township 9S, Range 22E and Township 10S, Range 22E resulted in the location of no cultural resources. Based on the findings, a determination of "no adverse impact" is recommended for the undertaking pursuant to Section 106, CFR 800.

REFERENCES CITED

Montgomery, J. A.
2008 Cultural Resource Management Report for Kerr-McGee Oil and Gas Onshore LP's Greater NBU Blocks in Township 10 South Range 22 East Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-07-MQ-1438b.

Montgomery, J. A., and J. Dunn
2008 Cultural Resource Management Report for Kerr-McGee Oil and Gas Onshore LP's Greater NBU Blocks in Township 9 South, Range 22 East, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-07-MQ-0461.

Patterson, J. J., J. Fritz, K. Lower-Eskelson, R. Stash and A. Thomas
2008 NBU Class I Existing Data Review for Kerr-McGee Oil & Gas Onshore LP, Uintah County, Utah. Montgomery Archaeological Consultants, Moab, Utah.

Stokes, W. L.
1986 *Geology of Utah*. Utah Museum of Natural History and Utah Geological and Mineral Survey, Salt Lake City.

Paleontological Assessment for Anadarko Petroleum Corp.

NBU #922-32J4CS

Archy Bench Quadrangle

Uintah County, Utah

Prepared for

Anadarko Petroleum Corp.
and
School and Institutional Trust Land Administration

Prepared by

SWCA Environmental Consultants

03/16/2009
SWCA #UT09-14314-03

’APIWellNo:43047504460000’

Paleontological Assessment for Anadarko Petroleum Corp.
NBU #922-32J4CS Proposed Extension of Existing Well Pad

Prepared for

Anadarko Petroleum Corp.
Granite Tower
1099 18th St. #1200
Denver, CO 80202

and

State of Utah
School & Institutional Trust Lands Administration
675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818

Prepared by:

Benjamin John Burger, M.S., Justin J. Strauss, M.S., Paul C. Murphey, Ph.D.
Utah State Permit 07-363

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Vernal, UT 84078
Phone: 435.789.9388
Fax: 435.789.9385
www.swca.com

SWCA #UT09-14314-03

03/16/09

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1.0 PROJECT SUMMARY

- Paleontological assessment conducted at the request of Anadarko Petroleum Corp. and the State of Utah School & Institutional Trust Lands Administration (SITLA). Performed by SWCA Environmental Consultants.
    - Utah State Permit 07-363

- Paleontological records search and field survey for the expansion of a preexisting well pad to accommodate a larger reserve pit.

- Field survey of proposed well pad and access route completed on 03/04/09 within NW ¼ SE ¼ of Section 32, T9S, R22E in Uintah County, Utah (USGS 7.5 Minute Archy Bench quadrangle).
    - 100-foot survey buffer around well pad.

- Geology
    - Geologic Units (mapped and observed):
        - Lower unit of the Uinta Formation (PFYC Class 5)

- Paleontology
    - No previous localities known in APE.
    - No new fossil localities discovered in area.

- Recommendation
    - **Immediate Paleontological Clearance.**
    - However, if any subsurface bones or other potential fossils are encountered during construction anywhere within the project area, work in the immediate vicinity should cease, the BLM should be notified, and a qualified and BLM-permitted paleontologist should inspect the location before work continues.

- Distribution of Survey Report
    - Hard copies sent SITLA and Anadarko Petroleum Corp. Hard copy and electronic copies on file at the SWCA Vernal office.

2.0 INTRODUCTION

At the request of Anadarko Petroleum Corp. and the Bureau of Land Management SWCA Environmental Consultants conducted a paleontological records search and field survey for the expansion of a preexisting well pad (NBU# 922-32J4CS), to extend the reserve pit 25 to 50 feet, and to enlarge the well pad 25 feet in the western direction.

The proposed well pad expansion is located in Section 32, T9S, R22E in Uintah County, Utah (USGS 7.5 Minute Archy Bench quadrangle; See Map 1).

2.1 Laws, Regulations and Standards

Various laws, regulations, and standards govern how fossils on public lands maybe collected and preserved for future generations. The School and Institutional Trust Lands Administration (Utah State Owned Property) requires a permit and repository agreement with Utah Museum of Natural History for the curation and storage of all "critical paleontological resources" found on Trust Lands (Utah Division of Administrative Rules 807). Furthermore, the state of Utah requires oil, gas and hydrocarbon lessees to provide a paleontological surveys, when requested, prior to project approval (Utah Division of Administrative Rules 850-21-700). A paleontological survey helps to ensure that proposed land use projects do not inadvertently damage or destroy "critical" paleontological resources on state trust lands. This report was prepared in order to describe the known paleontological resources in the area of potential effect for this project, and includes mitigation recommendations.

3.0 METHODS

The paleontological survey and evaluation procedures for this assessment were conducted according to State guidelines under Utah State Permit 07-363.

3.1 Personnel

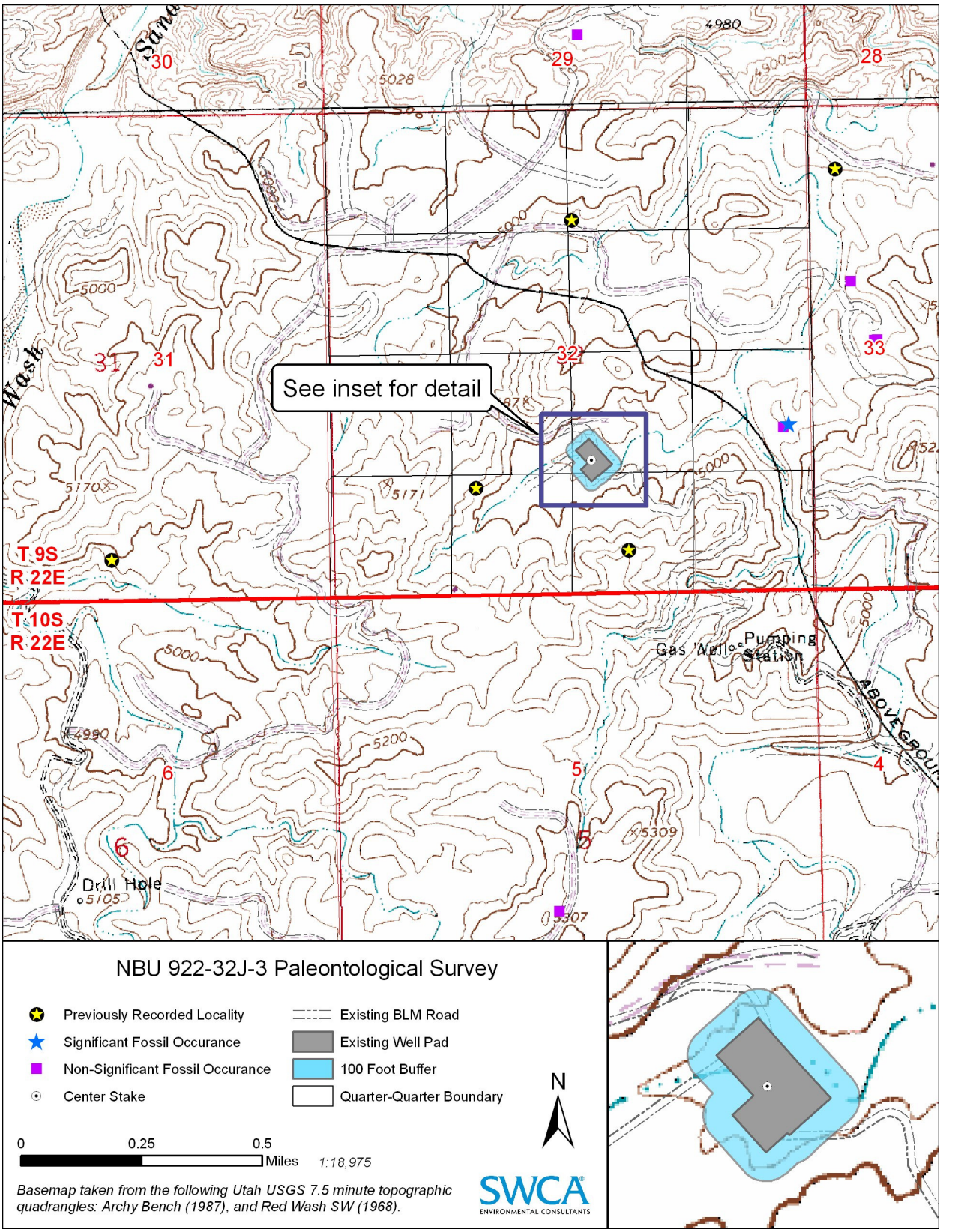
Benjamin J. Burger and Justin Strauss completed the field survey, conducted the file search and prepared the final report. Dr. Paul Murphey Principal Investigator on the BLM permit under which this survey was conducted reviewed the final report.

3.2 Records Search Methods

Records searches were conducted in order to 1) determine whether any previously recorded fossil localities occur within the project areas; 2) assess the potential for disturbance of these localities during construction; and 3) evaluate the paleontological sensitivity within the area of potential effect (APE). Electronic paleontological records maintained by the Utah Geological Survey, Paleontology Department were searched in order to determine the presence of previously documented fossil localities within the project APE.

3.3 Resource Assessment Methods

Geological units are assigned a Potential Fossil Yield Classification System (PFYC) number by the BLM Regional Paleontologists based upon the known paleontology resources from the geological unit and the potential for future significant fossils to be discovered.



Map 1. Location of Anadarko Petroleum Corp. Proposed expansion of well pad NBU # 922-32J4CS.

3.4 Field Methods

The survey was designed to 1) determine the surface presence of previously unknown significant vertebrate fossils and/or noteworthy occurrences of invertebrate, plant, or trace fossils; 2) evaluate the condition of documented paleontological localities and the potential for disturbance of these localities during the proposed construction; and 3) evaluate potential adverse impacts to subsurface paleontological resources during construction.

The paleontological field survey consisted of the area within the staked expansion of the well pad plus a 100-foot-wide buffer around the well pad. The APE was inspected for 1) surface fossils; 2) exposures of potentially fossiliferous rocks; and 3) areas in which fossiliferous rocks will be exposed or otherwise impacted during construction. The survey was 100% pedestrian of outcrop.

A paleontological locality documents the location, identification and description of a scientifically significant fossil(s) along with its geologic context. In addition, however, we record the presence of highly weathered, fragmentary or otherwise unidentifiable fossils as non-significant fossil occurrences which typically consist of fragments of turtle shell, unidentifiable bone and tooth fragments, and unidentifiable plant fossils in order to communicate the presence of fossils in a manner that does not trigger mitigation measures. Typically, fossil locality forms and maps are provided only for significant fossil localities which are either collected at the time of discovery or recommended for avoidance and/or later mitigation.

3.5 Distribution of Data

Copies of this report will be submitted to BLM and Anadarko Petroleum Corp. Any newly recorded locality data will be submitted to the Utah Geological Survey, State Paleontologist. A hard-copy file will be retained at SWCA Environmental Consultants, Vernal office, along with relevant field notes, maps, and other data.

4.0 GEOLOGY AND PALEONTOLOGY

The East-West trending Uinta Mountains were uplifted during the Rocky Mountain-forming Laramide orogeny (Rasmussen et al. 1999) in the Paleocene Epoch (Stokes 1986), exposing the Paleozoic-age rocks in the core of the mountains and Mesozoic-age rocks along their flanks. In conjunction with the uplift, the southerly-adjacent synclinal Uinta Basin formed (Rasmussen et al. 1999). From the Paleocene to the middle Eocene, sediments from freshwater lakes and later from river channels, river deltas and floodplains filled the basin with sediments and accompanying fossils (Stokes 1986, Townsend 2004). From oldest to youngest, these rock units include the Wasatch, Green River, Uinta and Duchesne River formations. Collectively, these units represent the primary source of middle Eocene-aged vertebrate, invertebrate and plant fossils from Utah and Colorado, and are thus of great scientific importance. Locally, Pleistocene- and Holocene-aged sediments deposited by rivers, streams, gravity, and wind overlie the bedrock geologic units.

The project APE contains one mapped geologic unit (Rowley et al 1995): Eocene-age lower Uinta Formation.

4.1 Uinta Formation

The middle Eocene Uinta Formation preserves a rich fossil record extending from about 46.5 to 40 million years ago (Prothero 1996). During this period, Earth's climate slowly cooled from the previously intense warm period of the early Eocene (Zachos et al. 2001). Many fossil mammals from the Uinta Formation represent a mix of modern and ancient forms (Scott and Osborn 1890; Peterson 1919; Robinson et al. 2004; Townsend 2004).

Fossil mammals known from the Uinta Formation include the carnivorous mammals *Mesonyx* and *Harpagolestes*, members of the Mesonychidae, an extinct family of mammals distantly related to whales and even-toed hoofed mammals. Mesonychids exhibit large sharp teeth and claws with the superficial appearance of modern wolves (Scott 1888; Peterson 1931). The Uinta Formation also produces remains of large six horned, saber toothed beasts call *Uintatheres*. As a member of the long extinct mammalian order Dinocerata, *Uintathere* fossils are featured in many museum exhibits (Wheeler 1961). Another large but uncommon mammal fossil known from the Uinta Formation is the early chalicothere *Eomorpus*. Long extinct, chalicotheres are a group of perissodactyl (odd toed ungulate) mammals that featured long forelegs equipped with claws used to strip vegetation for food, yet retained a horse like skull. A small fossil mammal known from the Uinta Formation is *Apatemys*, an arboreal animal with long anterior incisors adapted to feed on bark grubs and other insects. The Uinta Formation also preserves some of the last remaining early primates in North America (Townsend, 2004), including the omomyid primates *Macrotarsius, Ourayia, Trogolemur* and the more recently described *Chipetaia* (Rasmussen 1996). Primates would eventually vanish from North America as the climate continued to cool into the Oligocene Epoch (about 35 million years ago; Townsend 2004). The small bodied hyaenodontid creodonts, a sister group to modern carnivores co-occur with early ancestors of modern cats and dogs including *Procynodictis*, *Tapocyon* and *Prodaphaenus* in the Uinta Formation (Flynn and Galiano 1982, Townsend 2004). Other fossil mammals known from the Uinta Formation include a great diversity of rodents, representing six families (Robinson et al. 2004), and the earliest North American rabbit *Mytonolagus* (Dawson 1970). The Uinta Formation also preserves an excellent record of the early diversification of Artiodactyls (even toed ungulates) including the early camel *Poëbrodon* and the deer-like *Leptotragulus* (Gazin 1955). Remains of Perissodactyls are equally diverse, including the early rhino *Amynodon*, the tapiriod *Colodon*, early horse *Epihippus* (Granger 1908), as well numerous large brontotheres (Riggs 1912; Osborn 1929).

More common than mammal fossils, reptile remains from the Uinta Formation include a rich record of turtles including *Baena*, *Echmatemys* and *Trionyx*. Fossil teeth, bones and osteoderms of ancient crocodiles are common throughout the formation.

Because of its diverse and locally abundant mammalian fossils, the Uinta Formation was designated as the stratotype for the Uintan North American Land Mammal Age (Wood et al. 1940). Subsequently, Uintan aged strata have been documented at other locations in North America using the exceptional fossil record of the Uinta Formation in the Uinta Basin for comparison (Flynn 1986, Walsh 1996; Townsend 2004; Murphey and Evanoff 2007).

The following museums have fossils from the Uinta Formation in their collections:

American Museum of Natural History, New York, New York.
Carnegie Museum of Natural History, Pittsburgh, Pennsylvania.
Smithsonian National Museum of Natural History, Washington, D.C.
Vernal Field House of Natural History, Vernal, Utah.
Yale Peabody Museum, New Haven, Connecticut.

Smaller collections are known from:
Brigham Young University Earth Science Museum, Provo, Utah.
Utah Museum of Natural History, Salt Lake City, Utah.
Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts.
Field Museum of Natural History, Chicago, Illinois.
University of Colorado Museum of Natural History, Boulder, Colorado.

Lithologically, the Uinta Formation consists of greenish-gray, reddish-brown, yellow, grayish-orange, and purple fluvial and lacustrine shale marlstone, siltstone, and sandstone beds which are locally tuffaceous (Cashion 1973; Dane 1954; Rowley et al. 1985). In general terms, the Uinta Formation conformably overlies and interfingers with the Green River Formation in the Uinta and Piceance Creek Basins, and is overlain by the Duchesne River Formation in the Uinta Basin. Despite its historical and scientific importance to vertebrate paleontology, the detailed stratigraphy of the Uinta Formation is complex and not yet fully understood.

Named by Marsh (1871), geologists have subdivided the Uintan Formation from stratigraphically lowest to highest into three horizons A, B, and C. The A and B horizons represents the Wagonhound Member of the Uinta Formation, and the C horizon represents the Myton Member. The mudstone and claystone-dominated horizons (Uinta B and C) contain many well preserved fossil remains, while fossils recovered from the sandstone dominated horizon (Uinta A) are less well preserved and rare. The specific location of these subunit boundaries has shifted slightly with almost each successive publication on the stratigraphy of the area, resulting in a well-understood broad picture for which the stratigraphic details are hazy and the biostratigraphy unresolved (Walsh 1996). The most recent stratigraphic and paleontologic work in the Uinta Formation has included important efforts to better characterize and document the lithostratigraphy, biostratigraphy paleoecology, and paleoenvironments of the Uinta Formation and time-equivalent strata (see Rasmussen et al. 1999; Townsend 2004; Walsh 1996; Townsend et al. 2006). Documentation of where fossils are recovered within the Uinta Formation remains essential for understanding how life and the environment changed during this long interval of time.

5.0 RESULTS

The following section presents the results of the records search and field survey conducted for the Anadarko Petroleum Corp. for the expansion of a preexisting well pad.

5.1 Previously Documented Localities

The nearest previously recorded fossil localities are located 0.20 miles to the south, and 0.25 miles to the west. These fossils localities produced a partial Uintathere, and reptilian remains including shells of the turtles *Echmatemys* and *Apalone*. In total, four previously recorded fossil

localities are reported within a 1-mile radius of the proposed well pad extension. None of these are located within the APE.

5.2 Paleontological Sensitivities

The paleontological sensitivity of the one mapped geologic unit (Rowley et al 1995) in the project APE has been classified according to the PFYC by the BLM and is summarized in Table 1.

Table 1. Paleontological Sensitivities of Geologic Units Within the Project APE.

Geologic Unit	Map Symbol*	Age	Typical Fossils	PFYC
Uinta Formation, lower part	Tul	Eocene	Locally abundant plants (leaves, seeds, wood); invertebrates (insects, mollusks); and a highly diverse and scientifically important vertebrate fauna (reptiles, mammals)	Class 5

* Rowley et al 1995

5.3 Field Survey

922-32J4CS	**Well pad extension on preexisting well pad**
Location:	NE ¼ SE ¼ Section 32, T9S, R22E
Surveyed on:	3/4/2009 **By:** Ben Burger and Justin Strauss
Survey Remarks:	100% pedestrian survey of existing well pad with proposed expansion of western side of pad.
Photos:	Figures 1-5
Geologic Formation(s):	Uinta Fm, lower Mbr Eocene PFYC Class 5
Reference:	Rowley et al 1995
Topography:	Pad located within a low valley, near dry creek bed.
Bedrock Exposure Status:	No bedrock exposed. Extensive artificial fill to the southwest side of well pad.
Geologic Description:	Artificial fill, sandstone of Uinta Formation surround extended area.
Fossil Status:	None
Fossil Description:	N/A
Recommendation:	Immediate paleontological clearance. However, if any subsurface bones or other potential fossils are encountered during construction anywhere within the project area, work in the immediate vicinity should cease, the BLM should be notified, and a qualified and BLM-permitted paleontologist should inspect the location *before* work continues.

Figure 1. View from center stake, facing north.

Figure 2. View from center stake, facing east.

Figure 3. View from center stake, facing south.

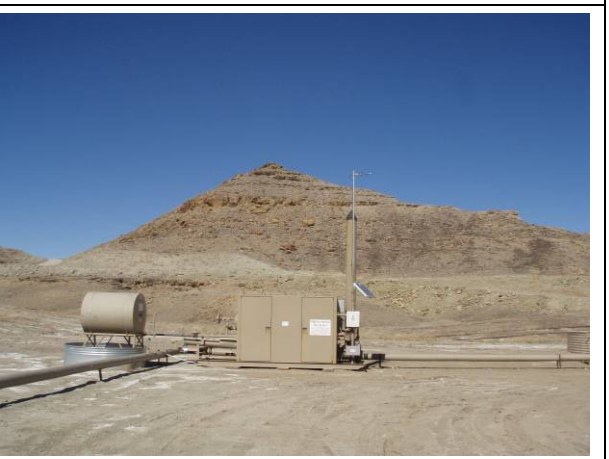


Figure 4. View from center stake, facing west.

Figure 5. View of ground at center stake.

6.0 REFERENCES

Bureau of Land Management (BLM). 2007. Instructional Memorandum 2008-009, Potential Fossil Resource Classification System.

Cashion, W. B. 1973. Geologic and structure map of the Grand Junction quadrangle, Colorado and Utah: U.S. Geological Survey, Miscellaneous Geologic Investigations Map I-736 (1:250,000).

Dane, C. H. 1954. Stratigraphic and facies relationships of upper part of Green River Formation and lower part of Uinta Formation in Duchesne, Uintah, Wasatch Counties, Utah: American Association of Petroleum Geologists Bulletin, 38(2): 405-425.

Dawson, M. 1970. Paleontology and geology of the Badwater Creek area, central Wyoming. Part 6. The leporid *Mytonolagus* (Mammalia, Lagomorpha). Annals of Carnegie Museum 7:215-230.

Flynn, J. J. 1986. Correlation and geochronology of Middle Eocene strata from the western United States. Palaeogeography, Palaeoclimatology, Palaeoecology 55:335-406.

Flynn, J. J. and Galiano, H. 1982. Phylogeny of early Tertiary Carnivora, with a description of a new species of *Protictis* from the Middle Eocene of northwestern Wyoming. American Museum Novitates 2725:1-64.

Gazin, C. L. 1955. A review of the upper Eocene Artiodactyla of North America. Smithsonian Miscellaneous Collections 128(8):1-96.

Granger, W. 1908. A revision of the American Eocene horses. Bulletin of the American Museum of Natural History 14:221-264.

Marsh, O.C. 1871. Notice of some new fossil reptiles from the Cretaceous and Tertiary formations. American Journal of Science and Arts 4:122-28,202-24.

Murphey, P.C., and Evanoff, E. 2007. Stratigraphy, fossil distribution and depositional environments of the upper Bridger Formation (middle Eocene), southwestern Wyoming: Wyoming State Geological Survey Report of Investigation 57, 107 p, (1 map, scale 1:100,000; 10 maps, scale 1:24,000).

Osborn, H. F. 1895. Fossil mammals of the Uinta Basin, Expedition of 1894. Bulletin of the American Museum of Natural History 7:71-105.

Osborn, H. F., 1929. The titanotheres of ancient Wyoming, Dakota, and Nebraska. U.S. Geologic Survey Monograph 1:1-701.

Peterson, O. A. 1919. Report upon the material discovered in the Upper Eocene of the Uinta Basin by Earl Douglas in the years 1908-1909, and by O. A. Peterson in 1912. Annals of Carnegie Museum 12(2):40-168.

Peterson, O. A. 1931. New mesonychids from the Uinta. Annals of the Carnegie Museum.16:333-339.

Prothero, D. R., 1996. Magnetic Stratigraphy and Biostratigraphy of the Middle Eocene Uinta Formation, Uinta Basin, Utah. *In*: D. R. Prothero and R. J. Emry (eds.): The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press, pp. 75-119.

Rasmussen, D. T. 1996. A new Middle Eocene omomyine primate from the Uinta Basin, Utah. Journal of Human Evolution 31:75-87.

Rasmussen, D. T., G. C. Conroy, A. R. Friscia, K. E. Townsend, and M. D. Kinkel. 1999. Mammals of the middle Eocene Uinta Formation. *In:* Gillette, D.E. (ed.). Vertebrate Paleontology in Utah: Utah Geological Survey Miscellaneous Publication, 99-1: 401-420.

Riggs, E. S., 1912. New or little known titanotheres from the Lower Uintah Formations. Field Museum of Natural History Geological Series 159*:*17-41.

Robinson, P., Gunnell, G. F., Walsh, S. L., Clyde, W. C., Storer, J. E., Stucky, R. K., Froehilich, D. J., Ferrusquia-Villafranca, I., McKenna, M. C. 2004. Wasatchian through Duchesnean Biochronology. *In*: Woodburne, M. O. (ed.): Late Cretaceous and Cenozoic Mammals of North America; Biostratigraphy and geochronology, pp. 106-155.

Rowley, P. D., W. R. Hansen, O. Tweto, and P. E. Carrara. 1985. Geologic map of the Vernal 1° X 2° Quadrangle, Colorado, Utah and Wyoming: U.S. Geological Survey Miscellaneous Investigations Map I-1526 (scale 1:250,000).

Scott, W. B. 1888. On some new and little known creodonts. Journal of the Academy of Natural Sciences Philadelphia 9:155-185.

Scott, W. B. and Osborn, H. F., 1890. The Mammalia of the Uinta Formation. Transactions of the American Philosophical Society 1887:255-264.

Stokes, W. L. 1986. Geology of Utah: Utah Museum of Natural History, University of Utah and Utah Geological and Mineral Survey, Department of Natural Resources.

Stucky, R. K. 1992. Mammalian faunas in North America of Bridgerian to Arikareean "ages" (Eocene and Oligocene): *In*: D. R. Prothero and W. A. Berggren (eds.): Eocene-Oligocene Climatic and Biotic Evolution. Princeton, N.J.: Princeton University Press, pp. 463-93.

Townsend, K. E. 2004. Stratigraphy, paleoecology, and habitat change in the middle Eocene of North America: Unpublished dissertation, Washington University, 418 pp.

Townsend, K. E., Friscia, A. R., Rasmussen, D. T. 2006. Stratigraphic Distribrution of Upper Middle Eocene Fossil Vertebrate Localities in the Eastern Uinta Basin, Utah, with comments on Uintan Biostratigraphy. The Mountain Geologist 43(2):115-134.

Walsh, S. L. 1996. Middle Eocene mammalian faunas of San Diego County, California. *In:* D. R. Prothero and R. J. Emry (eds.): The Terrestrial Eocene-Oligocene Transition in North America. Cambridge: Cambridge University Press, p. 75-119.

Wheeler, W.H. 1961. Revision of the Uintatheres. Bulleton of the Peabody Museum of Natural History, p. 93.

Wood, H. E., R. W. Chaney, J. Clark, E. H. Colbert, G. L. Jepsen, J. B. Reeside, Jr., and C. Stock. 1941. Nomenclature and correlation of the North American continental Tertiary. Bulletin of the Geological Society of America, 52:1-48.

Utah Division of Administrative Rules (http://www.rules.utah.gov/) accessed 3/6/2009.

Zachos, J., Pagani, M., Sloan, L., Thomas, E. and Billips, K. 2001. Trends, rhythms, and aberrations in global climate 65 Ma to present. Science 292:686-693.

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Anadarko Petroleum Corporation

Well Name: P_NBU 922-32J4CS
Surface Location: UINTAH_NBU 922-32J PAD
NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)
UTAH - UTM (feet), NAD27, Zone 12N
Ground Elevation: 4961.0

Northing	Easting	Latitude	Longitude
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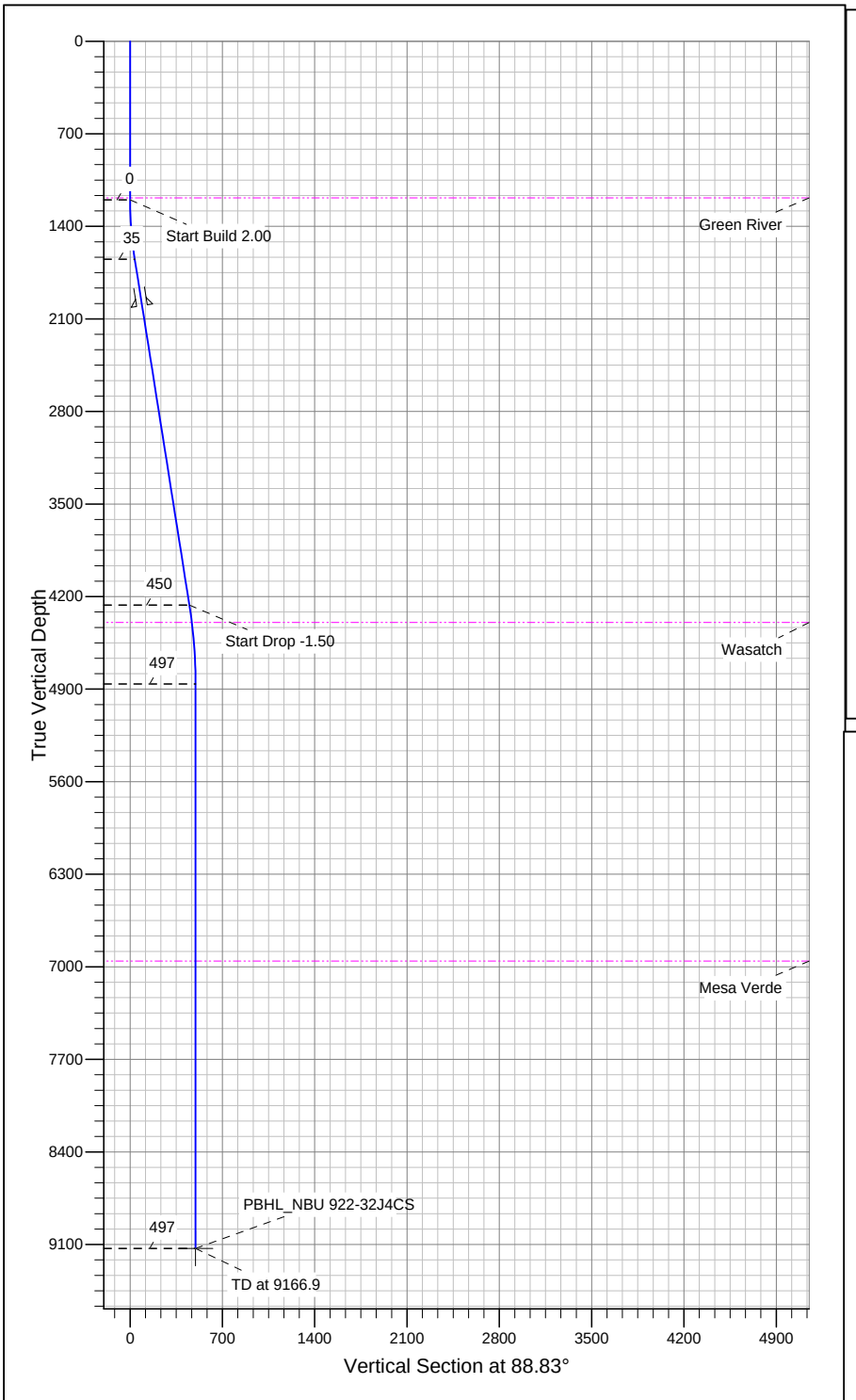
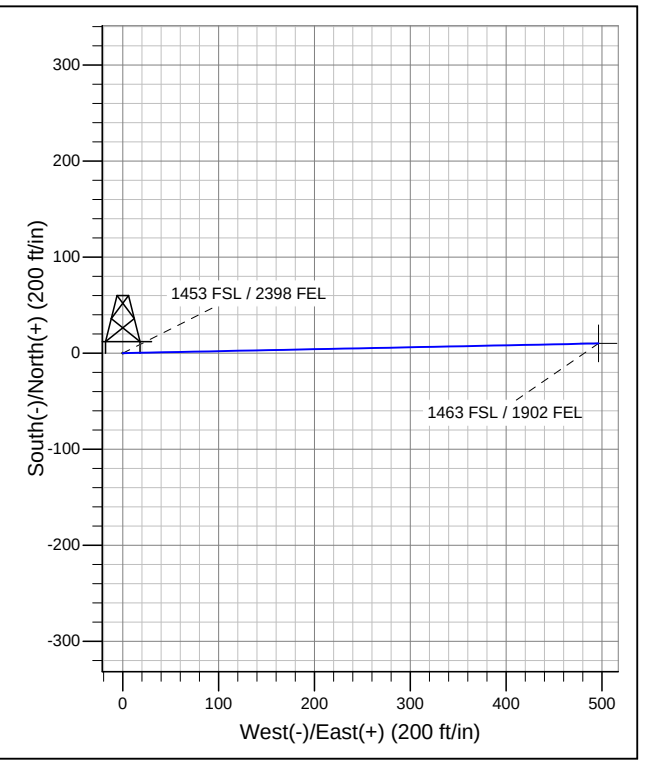
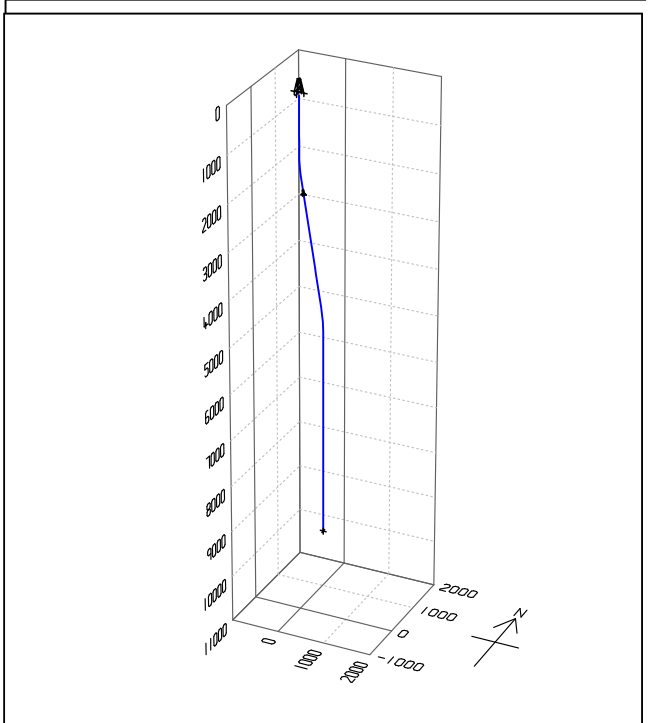
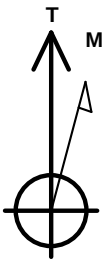






SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0
3	1650.0	9.00	88.83	1648.2	0.7	35.3	2.00	88.83	35.3
4	4298.5	9.00	88.83	4264.0	9.2	449.5	0.00	0.00	449.6
5	4898.5	0.00	0.00	4861.6	10.1	496.5	1.50	180.00	496.6
6	9166.9	0.00	0.00	9130.0	10.1	496.5	0.00	0.00	496.6



Azimuths to True North
Magnetic North: 11.32°

Magnetic Field
Strength: 52612.8snT
Dip Angle: 65.93°
Date: 4/8/2009
Model: IGRF200510

ROCKIES - PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 922-32J PAD
P_NBU 922-32J4CS
P_NBU 922-32J4CS

Plan: Plan #2 04-08-09 ZJRA6

Standard Planning Report - Geographic

22 May, 2009

APC

Planning Report - Geographic

Database:	apc_edmp	**Local Co-ordinate Reference:**	Well P_NBU 922-32J4CS
Company:	ROCKIES - PLANNING	**TVD Reference:**	WELL @ 4961.0ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	WELL @ 4961.0ft (Original Well Elev)
Site:	UINTAH_NBU 922-32J PAD	**North Reference:**	True
Well:	P_NBU 922-32J4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 922-32J4CS		
Design:	Plan #2 04-08-09 ZJRA6		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Fee	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 922-32J PAD

Site Position:		**Northing:**	14,525,855.01 ft	**Latitude:**	39.989278°N
From:	Lat/Long	**Easting:**	2,071,143.45 ft	**Longitude:**	109.462283°W
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.99 °

Well P_NBU 922-32J4CS

Well Position	**+N/-S**	0.0 ft	**Northing:**	14,525,855.00 ft	**Latitude:**	39.989278°N
	+E/-W	0.0 ft	**Easting:**	2,071,143.45 ft	**Longitude:**	109.462283°W
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,961.0 ft

Wellbore P_NBU 922-32J4CS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/8/2009	11.33	65.93	52,613

Design Plan #2 04-08-09 ZJRA6

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	88.83

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,650.0	9.00	88.83	1,648.2	0.7	35.3	2.00	2.00	0.00	88.83	
4,298.5	9.00	88.83	4,264.0	9.2	449.5	0.00	0.00	0.00	0.00	
4,898.5	0.00	0.00	4,861.6	10.1	496.5	1.50	-1.50	0.00	180.00	
9,166.9	0.00	0.00	9,130.0	10.1	496.5	0.00	0.00	0.00	0.00	PBHL_NBU 922-32

’APIWellNo:43047504460000’

APC

Planning Report - Geographic

Database:	apc_edmp	**Local Co-ordinate Reference:**	Well P_NBU 922-32J4CS
Company:	ROCKIES - PLANNING	**TVD Reference:**	WELL @ 4961.0ft (Original Well Elev)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	WELL @ 4961.0ft (Original Well Elev)
Site:	UINTAH_NBU 922-32J PAD	**North Reference:**	True
Well:	P_NBU 922-32J4CS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	P_NBU 922-32J4CS		
Design:	Plan #2 04-08-09 ZJRA6		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,525,855.00	2,071,143.45	39.989278°N	109.462283°W
1,185.0	0.00	0.00	1,185.0	0.0	0.0	14,525,855.00	2,071,143.45	39.989278°N	109.462283°W
Green River									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	14,525,855.00	2,071,143.45	39.989278°N	109.462283°W
1,650.0	9.00	88.83	1,648.2	0.7	35.3	14,525,856.32	2,071,178.70	39.989280°N	109.462157°W
2,006.2	9.00	88.83	2,000.0	1.9	91.0	14,525,858.42	2,071,234.38	39.989283°N	109.461959°W
Surface Casing									
4,298.5	9.00	88.83	4,264.0	9.2	449.5	14,525,871.91	2,071,592.72	39.989303°N	109.460679°W
4,430.8	7.02	88.83	4,395.0	9.5	467.9	14,525,872.61	2,071,611.13	39.989304°N	109.460613°W
Wasatch									
4,898.5	0.00	0.00	4,861.6	10.1	496.5	14,525,873.68	2,071,639.71	39.989306°N	109.460511°W
6,993.9	0.00	0.00	6,957.0	10.1	496.5	14,525,873.68	2,071,639.71	39.989306°N	109.460511°W
Mesa Verde									
9,166.9	0.00	0.00	9,130.0	10.1	496.5	14,525,873.68	2,071,639.71	39.989306°N	109.460511°W

Targets

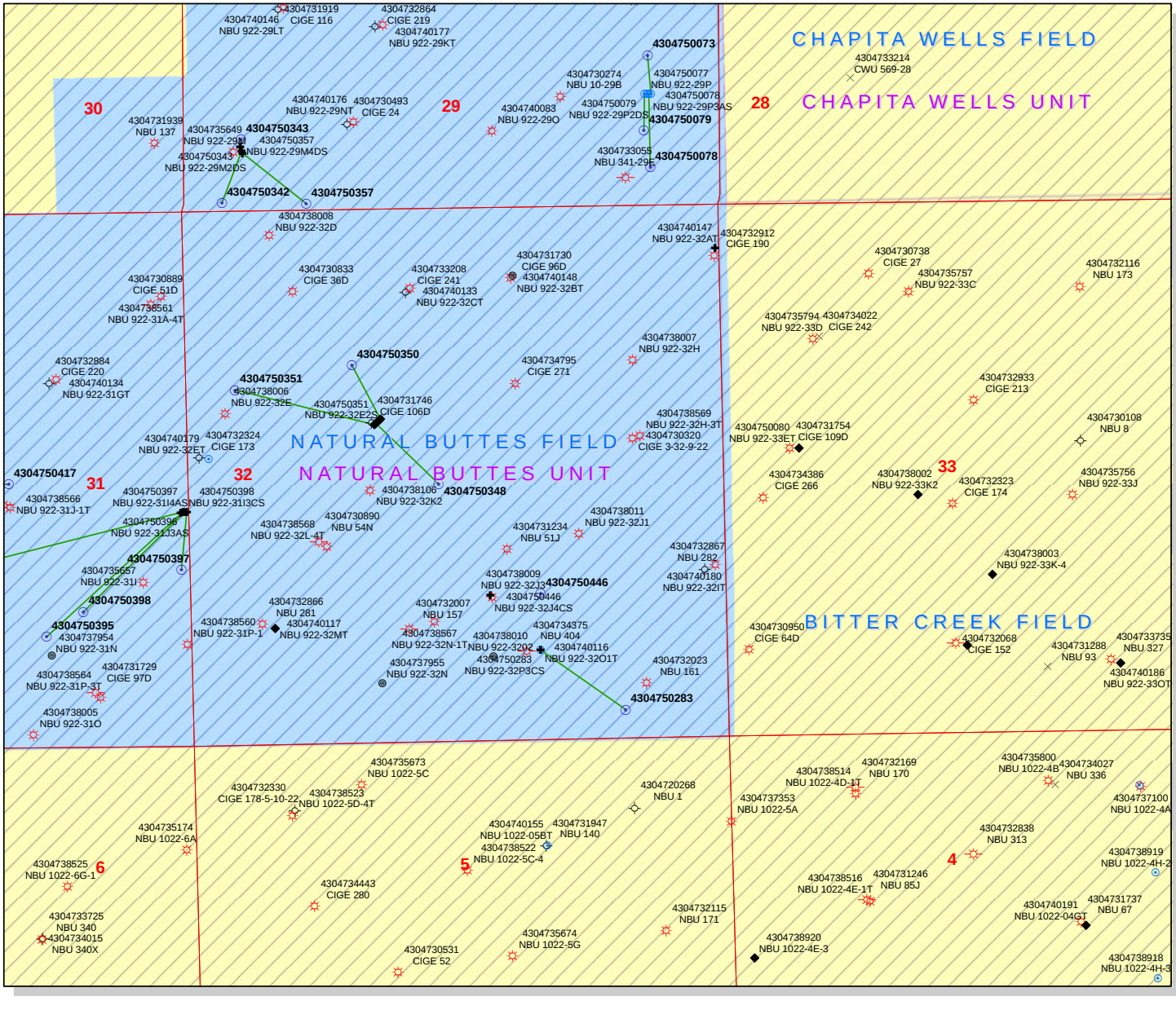
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_NBU 922-32J4 - plan hits target center - Point	0.00	0.00	9,130.0	10.1	496.5	14,525,873.68	2,071,639.71	39.989306°N	109.460511°W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,006.2	2,000.0	Surface Casing	9-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,430.8	4,395.0	Wasatch		0.00	
6,993.9	6,957.0	Mesa Verde		0.00	
1,185.0	1,185.0	Green River		0.00	



API Number: 4304750446

Well Name: NBU 922-32J4CS

Township 09.0 S Range 22.0 E Section 32

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units

STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS
- ACTIVE
- COMBINED
- Sections

Wells Query Events
- <all other values>

GIS_STAT_TYPE
- <Null>
- APD
- DRL
- GI
- GS
- LA
- NEW
- OPS
- PA
- PGW
- POW
- RET
- SGW
- SOW
- TA
- TW
- WD
- WI
- WS

1,200 600 0 1,200 Feet

1:12,000

'APIWellNo:43047504460000'

Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800
Denver, CO 80202-1918
P.O. Box 173779
Denver, CO 80217-3779
720-929-6000

June 3, 2009

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 922-32J4CS
T9S-R22E
Section 32: NWSE (Surf), NWSE (Bottom)
Surface: 1453' FSL, 2398' FEL
Bottom Hole: 1463' FSL, 1902' FEL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 922-32J4CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jason Rayburn
Landman

'APIWellNo:43047504460000'

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

June 5, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50415	NBU 922-31F2S	Sec 31 T09S R22E 2626 FSL 1451 FWL BHL Sec 31 T09S R22E 1737 FNL 1258 FWL
43-047-50417	NBU 922-31J2S	Sec 31 T09S R22E 2552 FSL 1420 FWL BHL Sec 31 T09S R22E 2611 FSL 1837 FEL
43-047-50419	NBU 922-31F3S	Sec 31 T09S R22E 2607 FSL 1443 FWL BHL Sec 31 T09S R22E 2215 FNL 1258 FWL
43-047-50428	NBU 1022-18I4BS	Sec 18 T10S R22E 0213 FSL 0292 FEL BHL Sec 18 T10S R22E 1690 FSL 0580 FEL
43-047-50429	NBU 1022-18O1AS	Sec 18 T10S R22E 0231 FSL 0301 FEL BHL Sec 18 T10S R22E 1115 FSL 1400 FEL
43-047-50430	NBU 1022-18P1DS	Sec 18 T10S R22E 0196 FSL 0283 FEL BHL Sec 18 T10S R22E 0855 FSL 0050 FEL
43-047-50431	NBU 1022-18P4AS	Sec 18 T10S R22E 0178 FSL 0274 FEL BHL Sec 18 T10S R22E 0505 FSL 0050 FEL
43-047-50446	NBU 922-32J4CS	Sec 32 T09S R22E 1453 FSL 2398 FEL BHL Sec 32 T09S R22E 1463 FSL 1902 FEL
43-047-50461	NBU 1022-24O2S	Sec 24 T10S R22E 0684 FSL 2016 FEL

BHL Sec 24 T10S R22E 1060 FSL 2080 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:6-5-09

From: Jim Davis
To: Bonner, Ed; Mason, Diana
Date: 6/18/2009 7:32 AM
Subject: Approval of NBU 922-32J4CS (Anadarko)

CC: Garrison, LaVonne

The following well has been approved by SITLA including arch and paleo clearance.

NBU 922-32J4CS (4304750446)

Thanks.

-Jim

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-32J4CS 43047504460000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-32J4CS 4304750446			
String	Surf	Prod		
Casing Size(")	9.625	4.500		
Setting Depth (TVD)	2185	9167		
Previous Shoe Setting Depth (TVD)	20	2185		
Max Mud Weight (ppg)	8.3	11.6		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780		
Operators Max Anticipated Pressure (psi)	5404	11.3		

Calculations	Surf String	9.625	"
Max BPH (psi)	.052*Setting Depth*MW=	946	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	684	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	465	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	470	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2185	psi
*Max Pressure Allowed @ Previous Casing Shoe=		20	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BPH (psi)	.052*Setting Depth*MW=	5530	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4430	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3513	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	3994	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2185	psi *Assumes 1psi/ft frac gradient

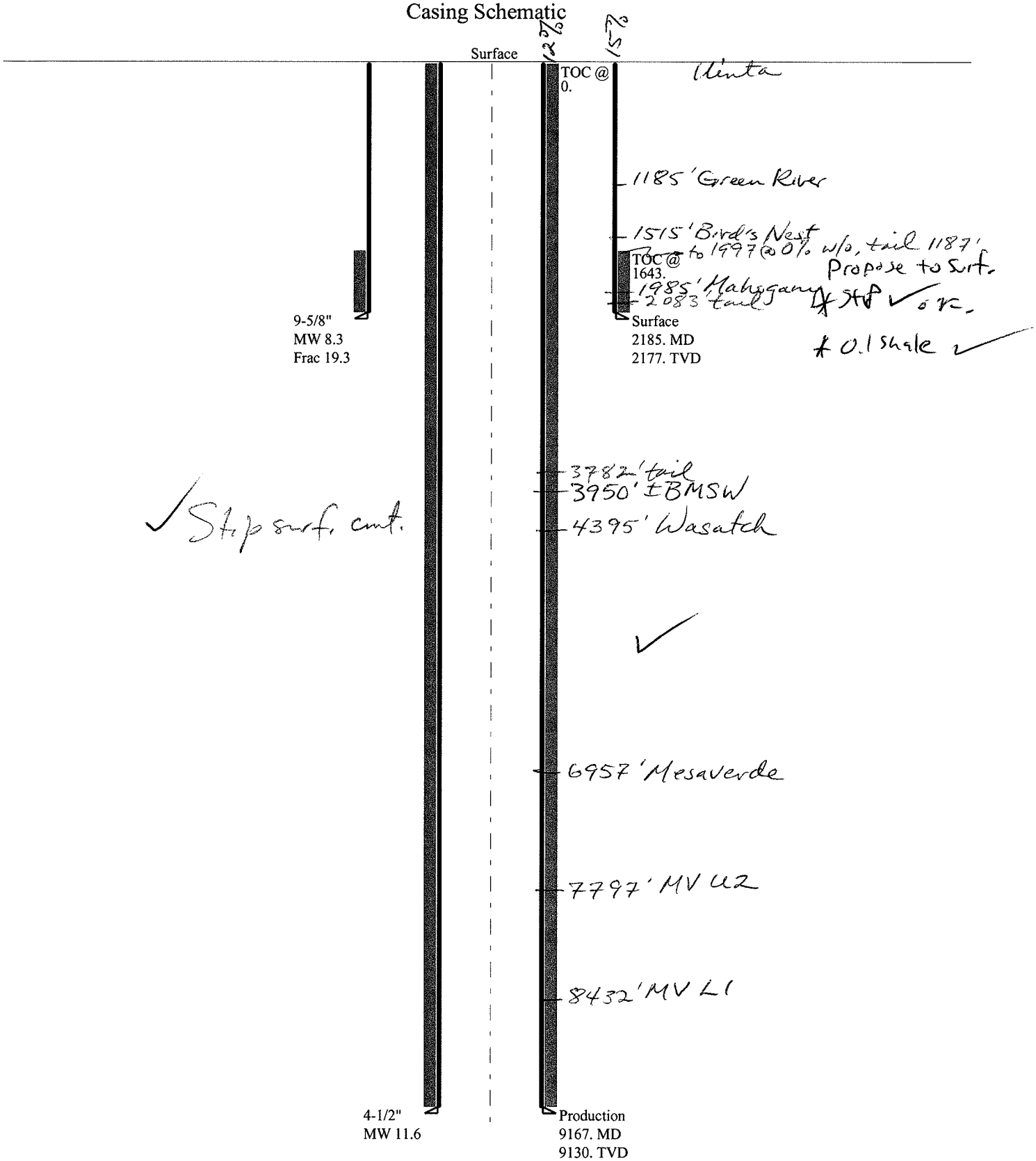
Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BPH (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

'APIWellNo:43047504460000'

43047504460000 NBU 922-32J4CS

Casing Schematic



'APIWellNo:43047504460000'

Well name:	**43047504460000 NBU 922-32J4CS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Surface
Project ID:	43-047-50446
Location:	UINTAH COUNTY

Design parameters:

Collapse
Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 1,923 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,184 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 1,913 ft

Environment:
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 104 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,643 ft

Directional Info - Build & Hold
Kick-off point 1200 ft
Departure at shoe: 119 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 8.98 °

Re subsequent strings:
Next setting depth: 9,130 ft
Next mud weight: 11.600 ppg
Next setting BHP: 5,502 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,185 ft
Injection pressure: 2,185 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	2185	9.625	36.00	J-55	ST&C	2177	2185	8.796	18992

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	942	2020	2.145	2184	3520	1.61	78.4	394	5.03 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: June 22,2009
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 2177 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

'APIWellNo:43047504460000'

Well name:	**43047504460000 NBU 922-32J4CS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-50446
Location:	UINTAH COUNTY

Design parameters:

Collapse
Mud weight: 11.600 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 3,493 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 5,502 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Tension is based on air weight.
Neutral point: 7,584 ft

Environment:
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 202 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: Surface

Directional Info - Build & Drop
Kick-off point 1200 ft
Departure at shoe: 497 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	9167	4.5	11.60	I-80	LT&C	9130	9167	3.875	121004

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5502	6360	1.156	5502	7780	1.41	105.9	212	2.00 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: June 22,2009
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 9130 ft, a mud weight of 11.6 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.								
Well Name	NBU 922-32J4CS								
API Number	43047504460000	**APD No**	1596	**Field/Unit**	NATURAL BUTTES				
Location: 1/4,1/4	NWSE	**Sec**	32	**Tw**	9.0S	**Rng**	22.0E	1453 FSL	2398 FEL
GPS Coord (UTM)	631288 4427484	**Surface Owner**							

Participants

Floyd Bartlett (DOGM), Jim Davis (SITLA), Raleen White, Griz Oleen, Clay Einerson, Charles Chase and Tony Kzneck (Kerr McGee), Ben Williams (UDWR) and Kolby Kay (Timberline Engineering and Land Surveying).

Regional/Local Setting & Topography

The proposed NBU 922-32J4CS well will be drilled on an existing location, which contains the NBU 922-32J3 producing gas well. No changes will occur to the surface. The reserve pit will be re-dug in the previous area. Because of the rocky/ledgey nature of the area, the reserve pit should be lined with a 30-mil liner and cushioned with an appropriate thickness of felt.

The existing pad shows no structural problems from the previous operation.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location. The selected location appears to be a suitable site for drilling and operating additional wells.

Surface Use Plan

Current Surface Use
Existing Well Pad

New Road Miles	Well Pad Width	Well Pad Length	Src Const Material	Surface Formation
0				

Ancillary Facilities

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands

Flora / Fauna
Existing Well Pad

Soil Type and Characteristics

Erosion Issues

Sedimentation Issues

Site Stability Issues

Drainage Diverson Required?

Berm Required?

Erosion Sedimentation Control Required?

Paleo Survey Run?	Paleo Potental Observed?	Cultural Survey Run?	Cultural Resources?

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	>200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	High permeability	20	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	45	1 Sensitivity Level

Characteristics / Requirements

The reserve pit will be re-dug in the previous area. Because of the rocky/ledgey nature of the area, the reserve pit should be lined with a 30-mil liner and cushioned with an appropriate thickness of felt.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

Floyd Bartlett	5/20/2009
Evaluator	**Date / Time**

Application for Permit to Drill
Statement of Basis

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
1596	43047504460000	LOCKED	GW	S	No

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.	**Surface Owner-APD**	
Well Name	NBU 922-32J4CS	**Unit**	NATURAL BUTTES
Field	NATURAL BUTTES	**Type of Work**	DRILL
Location	NWSE 32 9S 22E S 1453 FSL 2398 FEL	GPS Coord (UTM)	631295E 4427487N

Geologic Statement of Basis

Kerr McGee proposes to set 2,185' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,950'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 32. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill	6/3/2009
APD Evaluator	**Date / Time**

Surface Statement of Basis

The proposed NBU 922-32J4CS well will be drilled on an existing location, which contains the NBU 922-32J3 producing gas well. No changes will occur to the surface. The reserve pit will be re-dug in the previous area. Because of the rocky/ledgey nature of the area, the reserve pit should be lined with a 30-mil liner and cushioned with an appropriate thickness of felt.

The existing pad shows no structural problems from the previous operation.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location. The selected location appears to be a suitable site for drilling and operating additional wells.

Floyd Bartlett	5/20/2009
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 5/30/2009 **API NO. ASSIGNED:** 43047504460000

WELL NAME: NBU 922-32J4CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6007

CONTACT: Kathy Schneebeck-Dulnoan

PROPOSED LOCATION: NWSE 32 090S 220E **Permit Tech Review:** ☑

SURFACE: 1453 FSL 2398 FEL **Engineering Review:** ☑

BOTTOM: 1463 FSL 1902 FEL **Geology Review:** ☑

COUNTY: UINTAH

LATITUDE: 39.98925 **LONGITUDE:** -109.46217

UTM SURF EASTINGS: 631295.00 **NORTHINGS:** 4427487.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22649 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

SURFACE OWNER: 3 - State **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ☑ **PLAT**
- ☑ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

Board Cause No: Cause 173-14

Effective Date: 12/2/1999

Siting: 460' fr u bdry & uncomm. tract

- ☑ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmacdonald

JON M. HUNTSMAN, JR.
Governor
GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 922-32J4CS
API Well Number: 43047504460000
Lease Number: ML 22649
Surface Owner: STATE
Approval Date: 7/8/2009

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14 . The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, completion into and commingling of production from the Wasatch and Mesaverde formations is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

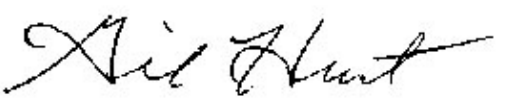
Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:
- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:
- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):
- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-942-0871 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:
- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



Gil Hunt
Associate Director, Oil & Gas

API Well No: 43047504460000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 11/3/2009	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Frac Factory Pit and Re

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as a Frac Factory staging pit to be utilized for other completion operations in the area. There will be a 2-400 bbl upright skim tanks placed on the location. The trucks will unload water into these tanks before the water is placed into the refurbed pit. The purpose of the skim tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the area. Thank you.

Approved by the Utah Division of Oil, Gas and Mining

Date: November 03, 2009

By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 11/2/2009

RECEIVED November 02, 2009

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions of Approval Well Number 43047504460000

A synthetic liner with a minimum thickness of 30 mils shall be properly installed and maintained in the pit.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: November 03, 2009

By:

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: **KERR-McGEE OIL & GAS ONSHORE, L.P.**

Well Name: **NBU 922-32J4CS**

Api No: **43-047-50446** Lease Type: **STATE**

Section **32** Township **09S** Range **22E** County **UINTAH**

Drilling Contractor **PETE MARTIN DRLG** RIG # **BUCKET**

SPUDDED:

Date **01/04/2010**

Time

How **DRY**

Drilling will Commence:

Reported by **TIM HINES**

Telephone # **(435) 828-1691**

Date 01/04//2010 Signed CHD

API Well No: 43047504460000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 1/4/2010	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.
RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/28 SX READY MIX.
SPUD WELL LOCATION ON 01/04/2010 AT 10:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
January 06, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 1/6/2010

RECEIVED January 06, 2010

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: P.O. Box 173779
city DENVER
state CO zip 80217
Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750798	NBU 921-27A1CS		NENE	27	9S	21E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	1/3/2010			1/12/2010	

Comments: MIRU PETE MARTIN BUCKET RIG. WSTMVD
SPUD WELL LOCATION ON 1/3/2010 AT 12:00 HRS. BHL = NENE

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750446	NBU 922-32J4CS		NWSE	32	9S	22E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	1/4/2010			1/12/2010	

Comments: MIRU PETE MARTIN BUCKET RIG. WSTMVD
SPUD WELL LOCATION ON 1/4/2010 AT 10:00 HRS. BHL = NWSE

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

ACTION CODES:
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

RECEIVED
JAN 06 2010
DIV. OF OIL, GAS & MINING

ANDY LYTLE
Name (Please Print)
Signature
REGULATORY ANALYST
Title
1/6/2010
Date

(5/2000)

API Well No: 43047504460000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 1/8/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PROPETRO AIR RIG ON 1/5/2010. DRILLED 12-1/4" SURFACE HOLE TO 2160'. RAN 9-5/8" 36# J-55 SURFACE CASING. PUMP 20 BBLS OF GEL WATER. CMT W/350 SX CLASS G PREM LITE TAIL CMT @ 15.8 PPG, 1.15 YIELD. DROP PLUG ON FLY, DISPLACE W/161.9 BBLS OF 8.3# WATER, 480 PSI OF LIFT @ 3 BBLS/MIN. NO CEMENT TO SURFACE. BUMP PLUG 900 PSI FOAT HELD. PUMP TOP OUT #1 W/100 SX CLASS G PREM LITE @ 15.8#, 1.5 YIELD DOWN BACKSIDE OF CSG. NO CEMENT TO SURFACE. CEMENT APPROX 300' DOWN. WAIT 2 HRS AND PUMP TOP OUT #2 W/160 SX OF SAME CEMENT. CEMENT TO SURFACE AND STAYED. WORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
January 11, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 1/11/2010

RECEIVED January 11, 2010

API Well No: 43047504460000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 1/23/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

FINISHED DRILLING FROM 2160' TO 9215' ON 1/21/2010. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. PUMP 40 BBLS WATER. LEAD CMT W/500 SX CLASS G PREM LITE @ 11.8 PPG, 2.42 YIELD. TAILED CMT W/1290 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.31 YIELD. DROP PLUG & DISPLACE W/140.3 BBLS CLAYTREAT WATER, BUMP PLUG @ 2750 PSI FINAL LIFT PSI OF 3256. PLUG DOWN @ 9169', EST TOP OF TAIL @ 4500,W 1.5 BBLS BACK TO TRUCK, PARTIAL RETURNS THOUGHOUT JOB, LOST RETURNS 130 BBLS INTO DISPLACEMENT, DID NOT GET RETURNS BACK. FLUSH STACK HOLE WAS FULL, LAND MANDREL HANGER W/60K, R/D. N/D BOP, CLEAN PITS. RELEASE PIONEER 69 RIG ON 1/23/2010 AT 02:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

January 25, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 1/25/2010

RECEIVED January 25, 2010

API Well No: 43047504460000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 3/1/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 3/1/2010 AT 12:00 P.M.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
March 02, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 3/1/2010

RECEIVED March 01, 2010

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes) FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22649
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME: UTU63047A
8. WELL NAME and NUMBER: NBU 922-32J4CS
9. API NUMBER: 4304750446
10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWSE 32 9S 22E
12. COUNTY: UINTAH
13. STATE: UTAH

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ DRY ☐ OTHER
b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP
3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217
PHONE NUMBER: (720) 929-6100
4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: NWSE 1453 FSL & 2398 FEL
AT TOP PRODUCING INTERVAL REPORTED BELOW: NWSE 1470 FSL & 1913 FEL SEC.32-9S-22E
AT TOTAL DEPTH: NWSE 1461 FSL & 1906 FEL SEC.32-9S-22E

14. DATE SPUDDED: 1/4/2010
15. DATE T.D. REACHED: 1/21/2010
16. DATE COMPLETED: 3/1/2010 ABANDONED ☐ READY TO PRODUCE ☑
17. ELEVATIONS (DF, RKB, RT, GL): 4961' GL
18. TOTAL DEPTH: MD 9,215 TVD 9,167
19. PLUG BACK T.D.: MD 9,165 TVD ~~9,117~~
20. IF MULTIPLE COMPLETIONS, HOW MANY? *
21. DEPTH BRIDGE PLUG SET: MD TVD
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
RADIAL ANALYSIS BOND LOG-RESEVOIR PERFORMANCE MONITOR
23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
12 1/4"	9 5/8 J-55	36#		2,154		710			
7 7/8"	4 1/2 I-80	11.6#		9,210		1790			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,094							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) WASATCH	6,895	6,917		
(B) MESAVERDE	6,953	8,737		
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)		SIZE	NO. HOLES	PERFORATION STATUS
6,895	6,917	0.36	8	Open ☑ Squeezed ☐
6,953	8,737	0.36	226	Open ☑ Squeezed ☐
				Open ☐ Squeezed ☐
				Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6895-7086	PMP 2,391 BBLS SLICK H20 & 115,161 LBS 30/50 SD.
7180-8737	PMP 7,810 BBLS SLICK H20 & 299,783 LBS 30/50 SD.

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS: PROD

RECEIVED
APR 07 2010
DIV. OF OIL, GAS & MINING

(5/2000) (CONTINUED ON BACK)

31. INITIAL PRODUCTION — **INTERVAL A (As shown in item #26)**

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
3/1/2010	3/13/2010	24		0	2,430	360	FLOWING

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:
20/64	1,700	2,500					0	2,430	360	PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,200				
MAHOGANY	1,880				
WASATCH	4,430	6,936			
MESAVERDE	6,949	9,215			

35. ADDITIONAL REMARKS (Include plugging procedure)

ATTACHED TO THIS WELL COMPLETION REPORT IS THE CHRONOLOGICAL WELL HISTORY AND FINAL SURVEY.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDY LYTLE TITLE REGULATORY ANALYST

SIGNATURE DATE 4/1/2010

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

Scientific Drilling
Rocky Mountain Operations

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12
NBU 922-32J4CS Pad
NBU 922-32J4CS
OH

Design: OH

Standard Survey Report

07 February, 2010

Anadarko
Petroleum Corporation

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 922-32J4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 4961' & RKB 18' @ 4979.00ft (Pioneer 69)
Site:	NBU 922-32J4CS Pad	**MD Reference:**	GL 4961' & RKB 18' @ 4979.00ft (Pioneer 69)
Well:	NBU 922-32J4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 2003.16 Multi-User Db

Project	Uintah County, UT UTM12		
Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 922-32J4CS Pad, Sec 32 T9S R22E				
Site Position:		**Northing:**	14,525,855.01 ft	**Latitude:**	39° 59' 21.400 N
From:	Lat/Long	**Easting:**	2,071,143.45 ft	**Longitude:**	109° 27' 44.220 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	in	**Grid Convergence:**	0.99 °

Well	NBU 922-32J4CS, 1453' FSL & 2398' FEL					
Well Position	**+N/-S**	0.00 ft	**Northing:**	14,525,855.01 ft	**Latitude:**	39° 59' 21.400 N
	+E/-W	0.00 ft	**Easting:**	2,071,143.45 ft	**Longitude:**	109° 27' 44.220 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,961.00 ft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2005-10	12/28/2009	11.23	65.91	52,505

Design	OH				
Audit Notes:					
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	14.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	14.00	0.00	0.00	79.14	

Survey Program **Date** 2/7/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
140.00	2,130.00	Survey #1 - Surface (OH)	MWD SDI	MWD - Standard ver 1.0.1
2,179.00	9,215.00	Survey #2 - Production (OH)	MWD SDI	MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	0.17	165.70	140.00	-0.18	0.05	0.01	0.13	0.13	0.00
First SDI Surface MWD Survey									
210.00	0.68	96.04	210.00	-0.33	0.48	0.41	0.92	0.73	-99.51
300.00	1.04	57.72	299.99	0.05	1.71	1.69	0.73	0.40	-42.58
390.00	1.48	57.89	389.97	1.11	3.38	3.53	0.49	0.49	0.19
480.00	1.69	54.17	479.93	2.50	5.44	5.82	0.26	0.23	-4.13
590.00	2.29	61.89	589.87	4.49	8.70	9.39	0.60	0.55	7.02
680.00	2.57	58.38	679.78	6.39	12.00	12.99	0.35	0.31	-3.90
770.00	2.68	63.76	769.69	8.38	15.61	16.90	0.30	0.12	5.98
860.00	2.79	63.64	859.59	10.28	19.46	21.04	0.12	0.12	-0.13
950.00	2.56	67.97	949.49	12.01	23.28	25.13	0.34	-0.26	4.81

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 922-32J4CS
Project:	Uintah County, UT UTM12	**TVD Reference:**	GL 4961' & RKB 18' @ 4979.00ft (Pioneer 69)
Site:	NBU 922-32J4CS Pad	**MD Reference:**	GL 4961' & RKB 18' @ 4979.00ft (Pioneer 69)
Well:	NBU 922-32J4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,040.00	2.58	63.56	1,039.40	13.67	26.96	29.05	0.22	0.02	-4.90
1,130.00	2.71	63.95	1,129.30	15.50	30.68	33.05	0.15	0.14	0.43
1,220.00	3.10	72.22	1,219.19	17.18	34.91	37.52	0.64	0.43	9.19
1,310.00	3.11	73.98	1,309.06	18.60	39.58	42.37	0.11	0.01	1.96
1,400.00	3.50	81.78	1,398.91	19.66	44.64	47.55	0.66	0.43	8.67
1,490.00	3.01	91.06	1,488.76	20.01	49.72	52.60	0.80	-0.54	10.31
1,580.00	2.92	97.81	1,578.64	19.66	54.36	57.09	0.40	-0.10	7.50
1,670.00	2.25	97.90	1,668.55	19.10	58.38	60.93	0.74	-0.74	0.10
1,760.00	2.11	100.10	1,758.48	18.57	61.76	64.15	0.18	-0.16	2.44
1,850.00	1.78	98.07	1,848.43	18.08	64.77	67.02	0.37	-0.37	-2.26
1,940.00	2.08	117.97	1,938.38	17.12	67.60	69.62	0.81	0.33	22.11
2,030.00	1.90	123.14	2,028.33	15.54	70.29	71.96	0.28	-0.20	5.74
2,130.00	2.01	108.83	2,128.27	14.07	73.34	74.68	0.50	0.11	-14.31
Last SDI Surface MWD Survey									
2,179.00	1.67	104.21	2,177.24	13.61	74.85	76.07	0.76	-0.69	-9.43
First SDI Production MWD Survey									
2,211.00	1.71	108.48	2,209.23	13.35	75.75	76.91	0.41	0.12	13.34
2,306.00	3.53	84.21	2,304.13	13.19	80.01	81.06	2.20	1.92	-25.55
2,401.00	5.70	88.53	2,398.82	13.61	87.63	88.63	2.31	2.28	4.55
2,496.00	7.99	88.58	2,493.13	13.90	98.95	99.80	2.41	2.41	0.05
2,590.00	10.02	96.72	2,585.97	13.10	113.60	114.04	2.54	2.16	8.66
2,685.00	11.40	96.78	2,679.32	11.02	131.14	130.87	1.45	1.45	0.06
2,780.00	14.72	92.85	2,771.85	9.32	152.52	151.54	3.62	3.49	-4.14
2,874.00	17.93	89.99	2,862.05	8.72	178.92	177.36	3.52	3.41	-3.04
2,969.00	18.44	86.81	2,952.30	9.56	208.55	206.62	1.17	0.54	-3.35
3,064.00	16.91	87.11	3,042.82	11.10	237.35	235.19	1.61	-1.61	0.32
3,159.00	18.37	91.26	3,133.35	11.46	266.12	263.51	2.03	1.54	4.37
3,254.00	15.87	90.53	3,224.14	11.01	294.08	290.89	2.64	-2.63	-0.77
3,348.00	16.79	85.36	3,314.35	11.99	320.46	316.99	1.83	0.98	-5.50
3,443.00	15.36	85.42	3,405.63	14.11	346.68	343.14	1.51	-1.51	0.06
3,538.00	13.19	84.95	3,497.69	16.07	370.03	366.43	2.29	-2.28	-0.49
3,632.00	12.16	86.10	3,589.40	17.68	390.59	386.92	1.13	-1.10	1.22
3,727.00	10.94	84.77	3,682.47	19.19	409.55	405.83	1.31	-1.28	-1.40
3,822.00	9.28	84.51	3,776.00	20.74	426.15	422.43	1.75	-1.75	-0.27
3,917.00	8.29	90.03	3,869.88	21.47	440.62	436.78	1.37	-1.04	5.81
4,011.00	7.55	97.25	3,962.99	20.69	453.53	449.30	1.32	-0.79	7.68
4,106.00	6.64	95.33	4,057.26	19.39	465.19	460.51	0.99	-0.96	-2.02
4,201.00	5.33	93.62	4,151.74	18.60	475.06	470.06	1.39	-1.38	-1.80
4,297.00	2.36	98.01	4,247.51	18.04	481.47	476.25	3.11	-3.09	4.57
4,392.00	1.76	111.49	4,342.45	17.24	484.76	479.33	0.81	-0.63	14.19
4,487.00	1.35	93.72	4,437.42	16.63	487.24	481.65	0.66	-0.43	-18.71
4,582.00	1.31	95.37	4,532.39	16.46	489.43	483.77	0.06	-0.04	1.74
4,647.00	1.17	50.80	4,597.38	16.81	490.69	485.07	1.46	-0.22	-68.57
4,771.00	1.11	40.11	4,721.35	18.52	492.44	487.12	0.18	-0.05	-8.62
4,961.00	0.77	89.55	4,911.33	19.94	494.91	489.80	0.44	-0.18	26.02
5,056.00	0.43	340.98	5,006.33	20.28	495.43	490.38	1.05	-0.36	-114.28
5,151.00	1.21	319.13	5,101.32	21.38	494.66	489.83	0.87	0.82	-23.00
5,341.00	0.71	214.22	5,291.30	21.92	492.68	487.99	0.82	-0.26	-55.22
5,530.00	0.44	321.03	5,480.29	21.52	491.57	486.82	0.50	-0.14	56.51
5,625.00	1.14	339.59	5,575.28	22.69	491.01	486.49	0.78	0.74	19.54
5,720.00	0.78	339.52	5,670.27	24.18	490.45	486.23	0.38	-0.38	-0.07
5,815.00	0.69	320.87	5,765.26	25.23	489.86	485.85	0.27	-0.09	-19.63
5,910.00	0.48	21.56	5,860.26	26.04	489.65	485.79	0.65	-0.22	63.88
6,099.00	0.98	91.53	6,049.25	26.74	491.56	487.79	0.49	0.26	37.02

Company:	Kerr McGee Oil and Gas Onshore LP	**Local Co-ordinate Reference:**	Well NBU 922-32J4CS
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Site:	NBU 922-32J4CS Pad	**MD Reference:**	GL 4961' & RKB 18' @ 4979.00ft (Pioneer 69)
Well:	NBU 922-32J4CS	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 2003.16 Multi-User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,194.00	0.68	344.50	6,144.24	27.26	492.22	488.54	1.42	-0.32	-112.66
6,289.00	0.57	58.17	6,239.24	28.05	492.47	488.94	0.79	-0.12	77.55
6,479.00	0.91	112.89	6,429.22	27.96	494.66	491.07	0.39	0.18	28.80
6,573.00	1.16	119.48	6,523.21	27.20	496.18	492.42	0.29	0.27	7.01
6,668.00	0.34	78.30	6,618.20	26.79	497.29	493.43	0.98	-0.86	-43.35
6,763.00	0.21	66.13	6,713.20	26.91	497.72	493.88	0.15	-0.14	-12.81
6,952.00	1.07	149.89	6,902.18	25.53	498.93	494.80	0.56	0.46	44.32
7,047.00	0.08	301.91	6,997.18	24.80	499.32	495.05	1.20	-1.04	160.02
7,142.00	0.17	42.37	7,092.18	24.93	499.35	495.11	0.21	0.09	105.75
7,237.00	0.41	97.51	7,187.18	24.99	499.79	495.55	0.36	0.25	58.04
7,332.00	0.67	119.06	7,282.17	24.68	500.61	496.30	0.34	0.27	22.68
7,427.00	0.33	71.54	7,377.17	24.50	501.35	496.99	0.54	-0.36	-50.02
7,522.00	0.65	107.90	7,472.17	24.42	502.13	497.74	0.45	0.34	38.27
7,616.00	0.57	176.81	7,566.16	23.79	502.66	498.14	0.74	-0.09	73.31
7,711.00	0.47	249.44	7,661.16	23.18	502.32	497.69	0.65	-0.11	76.45
7,806.00	0.50	236.09	7,756.16	22.81	501.61	496.93	0.12	0.03	-14.05
7,901.00	1.11	275.70	7,851.15	22.67	500.35	495.67	0.83	0.64	41.69
7,996.00	0.56	269.19	7,946.14	22.76	498.97	494.33	0.59	-0.58	-6.85
8,091.00	0.86	305.67	8,041.13	23.16	497.93	493.38	0.56	0.32	38.40
8,186.00	1.25	292.72	8,136.11	23.98	496.39	492.02	0.48	0.41	-13.63
8,281.00	0.12	12.11	8,231.11	24.48	495.46	491.20	1.30	-1.19	83.57
8,471.00	1.64	170.79	8,421.08	21.99	495.94	491.20	0.92	0.80	83.52
8,566.00	1.82	178.67	8,516.04	19.14	496.19	490.91	0.31	0.19	8.29
8,660.00	1.12	212.90	8,610.01	16.88	495.72	490.03	1.16	-0.74	36.41
8,755.00	0.67	228.43	8,705.00	15.73	494.80	488.91	0.53	-0.47	16.35
8,850.00	0.51	233.81	8,799.99	15.11	494.05	488.05	0.18	-0.17	5.66
8,945.00	0.46	211.84	8,894.99	14.54	493.51	487.41	0.20	-0.05	-23.13
9,135.00	2.01	190.58	9,084.94	10.61	492.49	485.67	0.84	0.82	-11.19
9,150.00	2.01	189.68	9,099.93	10.09	492.40	485.48	0.21	0.00	-6.00
Last SDI Production MWD Survey									
9,215.00	2.01	189.68	9,164.89	7.85	492.02	484.69	0.00	0.00	0.00
Projection To TD									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
NBU 922-32J4CS PBHL	0.00	0.00	9,150.00	10.12	496.51	14,525,873.69	2,071,639.71	39° 59' 21.500 N	109° 27' 37.840 W
- actual wellpath misses target center by 4.74ft at 9200.01ft MD (9149.91 TVD, 8.36 N, 492.10 E)									
- Circle (radius 25.00)									

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: PIONEER 69/69, PROPETRO/
Event: DRILLING	Start Date: 1/4/2010	End Date: 1/23/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
1/5/2010	11:30 - 17:00	5.50	MIRU	01	B	P		MIRU, DRESS CONDUCTOR, INSTALL AIR BOWL, RIG UP BOWIE LINE, RIG UP RIG., BUILD DITCH, RIG UP PUMPS, DOG HOUSE, AIR COMPRESSOR AND BOOSTER. (PUMP NOT READY) P/U AIR HAMMER
	17:00 - 20:00	3.00	MIRU	08	B	Z		THAW TANK VALVES FOR AIR MISTERS, WORK ON PUMPS. PRIME PUMPS.
	20:00 - 22:00	2.00	DRLSUR	02	A	P		AIR SPUD 01/05/2010 20:00 AIR HAMMER FROM 44'- 180'.
	22:00 - 0:00	2.00	DRLSUR	06	A	P		LD AIR HAMMER AND P/U 1.83 BENT HOUSE MOTOR (1ST RUN) M/U 12-1/4" Q507 SN 7016466, SCRIBE MOTOR.
1/6/2010	0:00 - 2:00	2.00	DRLSUR	06	A	P		P/U BHA, P/U MOTOR AND M/U Q507 12-1/4" BIT SN 7016466.
	2:00 - 5:00	3.00	MIRU	21	D	Z		WAIT ON SUB FROM PROPETRO. WRONG SUB WAS BROUGHT OUT.
	5:00 - 7:00	2.00	DRLSUR	06	A	P		P/U SCIENTIFIC DRILLING MWD TOOLS, AND ORIENT.
	7:00 - 9:00	2.00	DRLSUR	08	B	Z		THAW AND CHANGE OUT FROZEN VIBRATING HOSES
	9:00 - 0:00	15.00	DRLSUR	02	D	P		DRILL W/ MWD 180'- 1320' (1140',76'/HR) WOB 23K, ROT 45, GPM 650, DH RPM 104, UP/DOWN/ROT 55/55/55 , ON/OFF PSI 1400/1100. CIRC W/ FULL RETURNS
1/7/2010	0:00 - 4:00	4.00	DRLSUR	02	D	P		DRILL W/ MWD 1320'- 1680' (360', 90'/HR) WOB 23K, ROT 45, GPM 650, DH RPM 104, UP/DOWN/ROT 55/55/55 , ON/OFF PSI 1400/1100. LOSS PARTIAL RETURNS @ 1440'. USING BOOSTER TO CIRC. AFTER 1440'.
	4:00 - 9:00	5.00	MAINT	08	B	Z		POOH 5 JTS AND REPLACE AIR BOOSTER U-JOINT BROKE. REPLACE BOOSTER W/ BOOSTER FROM TOWN. REPLACE BOOSTER FILL PIT FOR DRILLING. TRIP IN HOLE 5 JTS.
	9:00 - 17:30	8.50	DRLSUR	02	D	P		DRILL W/ MWD 1680'-2160' (480, 56'/HR) TD 1/7/2010 17:30 WOB 23K, ROT 45, GPM 650, DH RPM 104, UP/DOWN/ROT 68/68/68 , ON/OFF PSI 1500/1200
	17:30 - 19:00	1.50	CSG	05	F	P		CIRC AND CONDITION HOLE, CLEAN HOLE.
	19:00 - 0:00	5.00	CSG	06	D	P		LAY DOWN DRILL STRING, LD DIRECTIONAL TOOLS.
1/8/2010	0:00 - 1:00	1.00	CSG	06	D	P		LDDS, LAY DOWN DIRECTIONAL TOOLS.
	1:00 - 4:00	3.00	CSG	12	E	P		RUN 49 JTS OF 9-5/8 36# J-55 CSG AND LAND FLOAT SHOE @ 2140', BAFFLE PLATE RAN IN TOP OF SHOE JT LANDED @ 2097'. FILL PIPE @ 800'. NO DISPLACEMENT, NO CIRC.
	4:00 - 4:30	0.50	RDMO	01	E	P		RIG DOWN RIG AND MOVE TO NBU 921-27A4BS. RELEASE RIG 1/8/2010 04:30.

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: PIONEER 69/69, PROPETRO/
Event: DRILLING	Start Date: 1/4/2010	End Date: 1/23/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	4:30 - 11:00	6.50	CSG	12	E	P		PRESSURE TEST TO 2000 PSI, PUMP 140 BBLS OF WATER AHEAD, PUMP 20 BBLS OF GEL WATER, START 350 SX (70.9 BBLS) OF 15.8#, 1.15 YD, 5 GAL/SK. DROP PLUG ON FLY, DISPLACE W/ 161.9 BBLS OF 8.3# WATER. 480 PSI OF LIFT @ 3 BBLS/MIN NO CEMENT TO SURFACE.. BUMP PLUG 900 PSI. FOAT HELD. PUMP 100 SX(20.2 BBLS) OF 15.8# 4% CALC2 1.5 YD 5 GAL SK DOWN BACKSIDE OF CSG. NO CEMENT SURFACE. CEMENT APPROX 300' DOWN. WAIT 2 HRS AND TOP OUT W/ 160 SX (34.7 BBLS) OF SAME CEMENT. CEMENT TO SURFACE AND STAYED.
1/14/2010	7:00 - 0:00	17.00	DRLPRO	01	E	P		RDRT ,MOVE RIG 1/4 MILE, RURT, 6 TRUCKS,2 FORKLIFTS, 1/ CRANE,TRUCKS ON LOCATION @ 06:30 RELEASED @ 14:00,CRANE ON LOCATION @ 09:00 RELEASED @ 14:30, 6 EXTRA RIG HANDS
1/15/2010	0:00 - 3:30	3.50	DRLPRO	01	B	P		R/U GAS BUSTER ,FLARE LINES,PITS,YELLOW DOG,WATER LINES,PASON LINES
	3:30 - 13:00	9.50	DRLPRO	14	A	P		N/U BOP ,BREAK DOWN FMC CONNECTOR,SWITCH OVER TO CAMERON CONNECTOR,INSTALL SPACER SPOOL,6" FLANGE& DOUBLE STUD FLANGE ,STACK TO HIGH REMOVE 6" SPACER FLANGE,CHANGE OUT CHOKE HOSE
	13:00 - 19:00	6.00	DRLPRO	15	A	P		S/M W/ QUICK TEST & RIG CREW,TEST KELLY UPPER & LOWER KELLY VALVES ,FLOOR VALVES,PIPE RAMS,BLIND RAMS,INSIDE & OUTSIDE KILL LINE CHOKE & HCR VALVES,CHOKE MANIFOLD TO 5000 PSI/250 PSI,ANNULAR TO 2500 PSI,CASING TO 1500 PSI, R/D QUICK TEST
	19:00 - 19:30	0.50	DRLPRO	24	A	P		INSTALL WEAR RING
	19:30 - 21:00	1.50	DRLPRO	09	A	P		CUT & SLIP DRLG LINE
	21:00 - 0:00	3.00	DRLPRO	06	A	P		S/M W/P/U CREW & RIG CREW ,P/U BIT,MM,DIR TOOLS, ORIENTATE BHA , P/ DP
1/16/2010	0:00 - 2:00	2.00	DRLPRO	06	A	P		FINISH P/U DP,R/D KIMZEY ,PRESPUD INSP
	2:00 - 4:00	2.00	DRLPRO	02	F	P		DRILL CMT & F.E
	4:00 - 15:30	11.50	DRLPRO	02	D	P		SPUD @ 2174' 04:00 1/16/2010, DRILL,SLIDE,SURVEY F/ 2174' TO 3161',987' 85.8 FPH,WOB 18,RPM 50 ,MM RPM 83,SPM 105,GPM 398,,UP/SO/ROT 79-75-72,ON/OFF 1100-880,DIFF 150-250,PUMP GEL & POLY SWEEPS,SLIDES 2244-2255,2276-2286,2397-2319,2339-2349,2371-23 1,2402-2414,2434-2446,2466-2478,2498-2510,2529-2 541,2561-2574,2593-2608,2623-2638,2656-2670,268 -2703,2719-2739,2751-2802,2814-2834,2845-2865,2 08-2928,2939-2959,3066-3086,30973121,3130-3150
	15:30 - 16:00	0.50	DRLPRO	07	A	P		RIG SERVICE ,CHECK BRAKE SYSTEM
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRILL,SLIDE,SURVEY F/ 3161' TO 3736' 575' @ 71.8 FPH,WOB 18,RPM 50,MMRPM 94,SPM 120,GPM 454,UP/SO/ROT 115-90-105,ON/OFF 1350-1100,DIFF 150-250,GEL & POLY SWEEPS,SLIDES3224-3244,3255-3280,3287-3297,3 319-3329,3540-3560,3571-3586,3697-3717,3729-373
1/17/2010	0:00 - 15:00	15.00	DRLPRO	02	D	P		DRILL,SLIDE SURVEY F/ 3736' TO 5247',1511' 100.7 FPH,WOB 18,RPM 55,MMRPM 95,SPM 120,GPM 454,UP/SO/ROT 140-100-118,ON/OFF 1500-1220, DIFF 150-300,GEL & POLY SWEEPS ,SLIDES 3740-3745,3887-3907,3982-3999,4108-4118,4204-42 4,4235-4250,4457-4469,4647-4662,5026-5046

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: PIONEER 69/69, PROPETRO/
Event: DRILLING	Start Date: 1/4/2010	End Date: 1/23/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL,SURVEY F/ 5247' TO 6006 759' @ 89.3 FPH,WOB 18-20,RPM 45- 50,MM RPM 95,SPM 120,GPM454,UP/SO/ROT 170-120-129,ON/OFF 1650-1300,DIFF 175-350,GEL & POLY SWEEPS,LOST APPOX 1000 BBLS WATER F/ RESERVE PIT ,SLIDES 5406-5426,5595-5607,5883-5903
1/18/2010	0:00 - 3:00	3.00	DRLPRO	02	D	P		DRILL & SURVEY F/ 6006' TO 6228' 222' @ 74 FPH,WOB 18-20,RPM 5-,MM RPM 95,SPM 120,GPM 454,UP/SO/ROT 170-120-135,ON/OFF 1600-1300,DIFF 175-350,LOST APPROX 1200 TOTAL BBLS WATER F/ RESERVE PIT,SLIDES 6164-6184,
	3:00 - 5:00	2.00	DRLPRO	05	G	P		DUMP PITS & FILL W/ FRESH WATER,DISPLACE HOLE W/ FRESH, MUD UP,PUMP LCM SWEEPS
	5:00 - 12:00	7.00	DRLPRO	02	D	P		DRILL & SURVEY F/ 6228' TO 6765' 537'76.7 FPH,WOB 18-20,RPM 50,MM RPM 95,SPM 120,GPM 454,UP/SO/ROT 185-125-150,ON/OFF 1850-1500,DIFF 150-350,MW 9.0,VIS 39, 2% LCM,SLIDES 6259-6171,6638-6653
	12:00 - 12:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL & SURVEY F/ 6765' TO 7450' 685' 59.5 FPH,WOB18-20,RPM 55,MM RPM 98,SPM 125,GPM 473,UP/SO/ROT 205-130-165ON/OFF 2350-2050,DIFF 150-350,MW 10.,VIS,3% LCM 40,SLIDES 7018-7038,7397-7417
1/19/2010	0:00 - 10:30	10.50	DRLPRO	02	D	P		DRILL & SURVEY F/ 7450' TO 7980', 530' 50.4 FPH,MW 10.3,VIS 41,LCM 3%, WOB 20,RPM 55,MM RPM98,SPM125,GPM 473,UP/SO/ROT 210-135-155,ON/OFF 2050-2400,DIFF 150-350,SLIDES 7587-7613,7682-7707, 7871-7886, LOST 60 BBLS MUD DUE TO SEEPAGE
	10:30 - 13:00	2.50	DRLPRO	08	A	Z		RIG REPAIR, ELECTRICAL & OIL LEAKS ON ROTARY MOTOR,OIL PUMP & COOLER NOT WORKING
	13:00 - 13:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRILL & SURVEY F/ 7980' TO 8472, 492',46.8 FPH,MW 11.0, VIS 45,5% LCM, WOB 20, RPM 55, MM RPM 90, SPM115, GPM 435, UP/SO/ROT 225-135-165, ON/OFF 2350-2085 ,DIFF 150-350, SLIDES 8061-8073, 8251-8273 ,NO LOSSES
1/20/2010	0:00 - 9:00	9.00	DRLPRO	02	D	P		DRILL & SURVEY F/ 8472' TO 8682'
	9:00 - 10:30	1.50	DRLPRO	05	B	S		CIRC & BIULD VOL, RAISE MW TO 10.4, LCM 10%, LOST @500 BBLS TO FORMATION
	10:30 - 11:30	1.00	DRLPRO	02	D	P		DRLG & SURVEY F/ 8682 TO 8725'
	11:30 - 14:30	3.00	DRLPRO	08	A	Z		REPLACE BAD AIR LINES TO LOW DRUM CLUTCH
	14:30 - 15:00	0.50	DRLPRO	07	A	P		SERVICE RIG
	15:00 - 0:00	9.00	DRLPRO	02	D	P		DRLG F/ 8725 TO 9060', WOB 20, MW 11.6, VIS 45, LCM 10%, RPM 50, MM 95, SPM 115, GPM 439, UP/DN/ROT 240-140-170, ON/OFF 2130-1930, BG 420-2980, CONN 545-9615, DT 9570, HIGH 9955
1/21/2010	0:00 - 4:30	4.50	DRLPRO	02	D	P		DRLG F/ 9060' TO 9215' MD, TVD 9166, TD WELL @ 9215 @ 04:30 1/21/10, WOB 20, MW 11.8 VIS 45, LCM 10%, RPM 50, MM 91, SPM 115, GPM 435, PU/SO/ROT 240-140-170, ON/OFF 2130-1930, DIFF 200, LOST @ 30 BBLS TO FORMATION
	4:30 - 7:00	2.50	DRLPRO	05	C	P		CIRC & COND HOLE F/ SHORT TRIP

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: PIONEER 69/69, PROPETRO/
Event: DRILLING	Start Date: 1/4/2010	End Date: 1/23/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 14:30	7.50	DRLPRO	06	E	P		SHORT TRIP TO SHOE, 112 STDS, TIGHT @ 6890 OUT, TIH WASH THOUGHT BRIDGE @ 6890 GOING IN TIGHT @ 8900 TO BOTTOM, WASH 60' TO BOTTOM W/ 5' FILL
	14:30 - 16:30	2.00	DRLPRO	05	A	P		CIRC & COND F/ LDDS
	16:30 - 0:00	7.50	DRLPRO	06	B	P		LDDS
1/22/2010	0:00 - 2:30	2.50	DRLPRO	06	A	P		FINISH LDDP, BREAK KELLY, L/D BHA & DIR TOOLS, PULL WEAR BUSHING
	2:30 - 9:30	7.00	DRLPRO	22	L	P		HPJSM W/ LOGERS & RIG CREWS, R/U & RUN IN TO 8870' HIT BRIDGE, WORKED ON BRIDGE TOOL LOST COM W/TRUCK POOH,WIRELINE HAD SHORT IN IT, REPLACE ROPE SOCKET STILL DID NOT WORK, R/D & RELEASED LOGGER
	9:30 - 15:00	5.50	DRLPRO	12	C	P		HPJSM W/ CASING & RIG CREWS, R/U & RUN 215 JTS 4 1/2" I-80 PROD CASING TO 9210', R/D
	15:00 - 17:00	2.00	DRLPRO	05	D	P		CIRC OUT GAS TO CEMENT
	17:00 - 21:00	4.00	DRLPRO	12	E	P		HPJSM W/CEMENT & RIG CREWS, R/U & PSI TEST LINES TO 4500, PUMP 40 BBLS WATER, LEAD 500 SXS 11.8 PPG 2.42 YLD, TAIL 1290 SXS 14.3 PPG 1.31 YLD, DROP PLUG & DISPLACE W/ 142.5 BBLS CLAYTREAT WATER, BUMP PLUG @ 2750 PSI FINAL LIFT PSI OF 2266, PLUG DOWN @ 9169', EST TOP OF TAIL @ 4500,W 1.5 BBLS BACK TO TRUCK, PARTIAL RETURNS THOUGHOUT JOB, LOST RETURNS 130 BBLS INTO DISPLACEMENT DID NOT GET RETURNS BACK, FLUSH STACK HOLE WAS FULL, LAND MANDREL HANGER W/ 60K, R/D
	21:00 - 0:00	3.00	DRLPRO	14	A	P		N/D & CLEAN PITS, WINTERIZE RIG F/ MOVE
1/23/2010	0:00 - 2:00	2.00	DRLPRO	14	A	P		N/D BOPE, CLEAN PITS, RELEASE RIG @ 02:00 1/23/10

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 2/12/2010	End Date: 2/27/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/12/2010	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING #1, DAY 1
	7:15 - 15:00	7.75	COMP	30	A	P		ROAD RIG FROM NBU 1021 - 19E TO LOC, MIRU, N/D WH, N/U BOPS, R/U TBG EQUIP, PREPARE TO P/U TBG, SDFWE
2/16/2010	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING #2,
	7:15 - 14:00	6.75	COMP	31	I	P		P/U 3 7/8" BIT TIH W/ 2/38" J-55 TBG W/ TALLY IN HOLE, RIH 290 JTS TAG @ 9158', R/U POWER SWIVEL, ESTB CIRC DN CSG OUT TBG, DRILL OUT FLOAT COLLER @ 9164', DRILL TO @ 9180', CIRC WELL CLEAN, R/D POWER SWIVEL,
	14:00 - 17:30	3.50	COMP	31	I	P		TOOH W/ LAY TBG DN ON TRAILER, LAY DN 190 JTS, EOT @ 3100', SWI, SDFN
2/17/2010	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING #3,
	7:15 - 11:00	3.75	COMP	31	I	P		TOOH LAY TBG DN ON TRAILER, N/D BOPS, N/U FRAC VALVE, R/D SERVICE UNIT, MOVE OFF LOC.
2/19/2010	11:00 - 12:00	1.00	COMP	33	C	P		PRESSURE TEST CSG AND FRAC VALVE TO 7,000#,
2/23/2010	11:00 - 17:00	6.00	COMP	37	B	P		MIRU CUTTER WIRELINE AND CRANE TRUCK, (PERF STG #1) RIH W/ PERF GUNS, PERF THE MESAVERDE @ 8734 - 8737', 8631 - 8633', 8554 - 8555', 8528 - 8530', 8490 - 8492', 4-SPF, USING 3 3/8" EXP GUNS, 23 gm, 0.36 HOLE, 90* PHS, 40 HOLES, SHUT WELL IN, R/U FRAC TECH, PREPARE TO FRAC IN AM,
2/24/2010	6:30 - 7:00	0.50	COMP	48		P		SAFETY MEETING W/ FRAC TECH AND CUTTER WIRELINE

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 2/12/2010	End Date: 2/27/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation

	7:00 - 7:00	0.00	COMP	36	E	P		(STG #1) PRESSURE TEST SURFACE LINE TO 8000#, WHP = 1380 #,
								BRK DN PERF @ 3233 # @ 6 B/M, INJ-RT = 51B/M, INJ-P = 5175 #, ISIP = 2730 #, F.G.= 0.75 , PUMP 6 BBLS HCL AHEAD OF INJ, CALC ALL PERF OPEN, PUMP 2065 BBLS SLK WTR AND 72992 # OTTAWA SAND, ISIP = 2810 #, F.G. = 0.76 , NPI = 80 #, MP = 6413 # MR = 42.6 B/M, AP = 3960 #, AR = 42 B/M, 67992 # 30/50 SAND, 5000 # TLC SAND, 214 GALS NALCO SCALE INHIB, 38 GALS NALCO BIOCID,
								COMMENTS = LOST TWO PUMPS,
								
								(STG #2) RIH W/ BAKER 8K CBP AND PERF GUNS, SET CBP @ 8380 ', PERF THE MESAVERDE @ 8347 - 8350' 4-SPF, 8296 - 8299' 4-SPF, 8248 - 8250' 3-SPF, 8195 - 8197' 3-SPF, 8141 - 8143' 3-SPF,
								USING 3 3/8" EXP GUNS 23 gm, 0.36 HOLE 90* PHS, 42 HOLES, WHP = 450 #,
								BRK DN PERF @ 2991 # @ 4.5 B/M, INJ-RT = 55 B/M, INJ-P = 5000 #, ISIP = 2116 # F.G.= 0.69 , CALC 90% PERF OPEN, PUMP 1200 BBLS SLK WTR & 47791 # OTTAWA SAND, ISIP = 2410 #, F.G.= 0.73 , NPI = 294 #, MP = 6490 #, MR = 55 B/M, AP = 4555 # AR = 54 B/M, 42791 # 30/50 SAND, 5000 # TLC SAND, 109 GALS NALCO SCALE INHIB, 25 GALS NALCO BIOCIDE,
								COMMENTS = GOOD JOB
								
								(STG #3) RIH W/ BAKER 8K CBP AND PERF GUNS, SET CBP @ 8078 ', PERF THE MESAVERDE @
								8046 - 8048', 8014 - 8018', 7978 - 7980', 7924 - 7926', 4-SPF, USING 3 3/8" EXP GUNS 23 gm, 0.36 HOLE 90* PHS, 40 HOLES, WHP = 555 #,
								BRK DN PERF @ 2522 # @ 6 B/M, INJ-RT = 50.5 B/M, INJ-P = 4425 #, ISIP = 2040 # F.G.= 0.69 , CALC ALL PERF OPEN, PUMP 3114 BBLS SLK WTR & 128799 # OTTAWA SAND, ISIP = 2222 #, F.G.= 0.71 , NPI = 182 #, MP = 6430 #, MR = 52.3 B/M, AP = 3950 #, AR = 52 B/M, 123799 # 30/50 SAND, 5000 # TLC SAND, 211 GALS NALCO SCALE INHIB, 66 GALS NALCO BIOCIDE,
								COMMENTS = GOOD JOB
								
								(STG #4) RIH W/ BAKER 8K CBP AND PERF GUNS, SET CBP @ 7904 ', PERF THE MESAVERDE @
								7872 - 7874', 7852 - 7855', 7758 - 7760', 7730 - 7732', 4-SPF, USING 3 3/8" EXP GUNS 23 gm, 0.36 HOLE 90* PHS, 36 HOLES, WHP = 1675 #,
								BRK DN PERF @ 3292 # @ 5 B/M, INJ-RT = 49 B/M, INJ-P = 5850 #, ISIP = 2592 # F.G.= 0.77 , CALC 75% PERF OPEN, PUMP 665 BBLS SLK WTR & 22605 # OTTAWA SAND, ISIP = 2363 #, F.G.= 0.74 , NPI = - 229 #, MP = 6507 #, MR = 52.9 B/M, AP = 4550 #, AR = 49.3 B/M, 17605 # 30/50 SAND, 5000 # TLC SAND, 76 GALS NALCO SCALE INHIB, 14 GALS NALCO BIOCIDE,
								COMMENTS = GOOD JOB
								
								(STG #5) RIH W/ BAKER 8K CBP AND PERF GUNS, SET CBP @ 7396 ', PERF THE MESAVERDE @ 7363 - 7366', 7300 - 7302', 7259 - 7261', 7180 -

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 2/12/2010	End Date: 2/27/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation

								7182', 4-SPF, USING 3 3/8" EXP GUNS 23 gm, 0.36 HOLE 90* PHS, 36 HOLES, WHP = 1675 #, BRK DN PERF @ 2357 # @ 5 B/M, INJ-RT = 47 B/M, INJ-P = 4450 #, ISIP = 1816 #, F.G.= 0.68 , CALC ALL PERF OPEN, PUMP 766 BBLS SLK WTR & 27596 # OTTAWA SAND, ISIP = 2050 #, F.G.= 0.71 , NPI = 234 #, MP = 4725 #, MR = 50.6 B/M, AP = 3640 #, AR = 48.7 B/M, 22596 # 30/50 SAND, 5000 # TLC SAND, 83 GALS NALCO SCALE INHIB, 16 GALS NALCO BIOCIDE,
								COMMENTS = LOST 2 PUMPS,
								
								(STG #6) RIH W/ BAKER 8K CBP AND PERF GUNS, SET CBP @ 7116 ', PERF THE MESAVERDE AND WASATCH @7084 - 7086', 7040 - 7042', 7006 - 7007', 6986 - 6988', 6953 -6954', 6916 - 6917', 6895 - 6896', 4-SPF, USING 3 3/8" EXP GUNS 23 gm, 0.36 HOLE 90* PHS, 40 HOLES, WHP = 288 #, BRK DN PERF @ 3092 # @ 6 B/M, INJ-RT = 49 B/M, INJ-P = 4360 #, ISIP = 1299 # F.G.= 0.62 , CALC 70% PERF OPEN, PUMP 2391 BBLS SLK WTR & 115161 # OTTAWA SAND, ISIP = 2357 #, F.G.= 0.77 , NPI = 1058 #, MP = 5161 #, MR = 49.2 B/M, AP = 3557 #, AR = 43.7 B/M, 110161 # 30/50 SAND, 5000 # TLC SAND, 124 GALS NALCO SCALE INHIB, 49 GALS NALCO BIOCIDE,
								COMMENTS = LOST ONE PUMP,
								
								(KILL PLUG) RIH W/ BAKER 8K CBP, SET CBP @ 6845', POOH, R/D WIRELINE AND FRAC CREW, SHUT WELL IN SDFN
								
								TOTAL FLUID = 10201 BBLS SLK WTR,
								TOTAL SAND = 414944 #,
								TOTAL NALCO SCALE INHIB = 808 GALS,
								TOTAL NALCO BIOCIDE = 213 GALS,

2/26/2010	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING #7,
	7:15 - 10:30	3.25	COMP	30	A	P		ROAD RIG FROM NBU 922-32AT TO LOC MIRU, N/D FRAC VALVE N/U BOPS AND TBG EQUIP,
	10:30 - 15:00	4.50	COMP	31	I	P		P/U 3 7/8" BIT W/ POBS, TIH W/ 2 3/8" TBG, TAG CBP @ 6845', R/U POWER SWIVEL AND PUMP, PREPARE TO DRILL OUT IN AM, SWI, SDFN
2/27/2010	7:00 - 7:15	0.25	COMP	48		P		JSA-SAFETY MEETING #8

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD	Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 2/12/2010	End Date: 2/27/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:15 - 17:30	10.25	COMP	44	C	P		PRESSURE TEST BOPS TO 3000#, ESTB CIRC DN TBG OUT CSG, (DRLG CBP # 1) 6845 ', DRILL OUT BAKER 8K CBP IN 45 MIN, 400 # DIFF, RIH TAG @ 7086 ', C/O 30 ' SAND, FCP = 50 #, (DRLG CBP # 2) 7116 ', DRILL OUT BAKER 8K CBP IN 45 MIN, 0 # DIFF, RIH TAG @ 7380 ', C/O 3(' SAND, FCP = 50 #, (DRLG CBP # 3) 7410 ', DRILL OUT BAKER 8K CBP IN 30 MIN, 200 # DIFF, RIH TAG @ 7870 ', C/O 30 ' SAND, FCP = 75 #, (DRLG CBP # 4) 7904 ', DRILL OUT BAKER 8K CBP IN 45 MIN, 100 # DIFF, RIH TAG @ 8048 ', C/O 30 ' SAND, FCP = 100 #, (DRLG CBP # 5) 8078 ', DRILL OUT BAKER 8K CBP IN 45 MIN, 500 # DIFF, RIH TAG @ 8360 ', C/O 30 ' SAND, FCP = 500 #, (DRLG CBP # 6) 8390 ', DRILL OUT BAKER 8K CBP IN 90 MIN, 200 # DIFF, RIH TAG @ 8990 ', C/O 0 ' SAND TO PBTD 8990 ', FCP = 600 #, CIRC WELL CLEAN, P/O LAY DN 27JTS 2 3/8" J-55 TBG ON TRAILER, EOT = 8094.68 ', LAND TBG W/ HANGER W/ 255 JTS 2 3/8" J-55 TBG, EOT = 8094.68', R/D TBG EQUIP, N/D BOPS, DROP BALL DN TBG, N/U WH, PUMP OFF BIT SUB @ 1550 #, WAIT 30 MIN FOR BIT TO FALL, OPEN WELL TO PIT W/ FTP = 800 #, SICP = 2000 #, TURN WELL OVER TO FBC @ PM, W/ 8219 BBLS WTR LTR, RIG DN UNIT MOVE OFF SIDE LOC, SDFWE KB = 18.00' HANGER = .83' 255 JTS 2 3/8" J-55 TBG = 8073.65' XN-NIPPLE POBS = 2.20 EOT = 8094.68' 293 JTS 2 3/8" J-55 TBG DELV, 255 JTS 2 3/8" J-55 TBG LANDED 38 JTS 2 3/8" J-55 TBG RETURNED
2/28/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2500#, TP 1950#, 20/64" CK, 60 BWPH, 1/2 CUP SAND, - GAS TTL BBLS RECOVERED: 3917 BBLS LEFT TO RECOVER: 7084
3/1/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2900#, TP 1950#, 20/64" CK, 40 BWPH, 1/4 CUP SAND, - GAS TTL BBLS RECOVERED: 5037 BBLS LEFT TO RECOVER: 7179
	11:15 -		PROD	50				WELL TURNED TO SALES @ 1115 HR ON 3/1/10 - 2400 MCFD, 840 BWPD, CP 2950#, FTP 1950#, CK 20/694"
3/2/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2650#, TP 1800#, 20/64" CK, 30 BWPH, 1 TSP SAND, - GAS TTL BBLS RECOVERED: 5867 BBLS LEFT TO RECOVER: 6349

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010	
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD		Rig Name No: MILES 2/2
Event: COMPLETION	Start Date: 2/12/2010		End Date: 2/27/2010
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
3/3/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2500#, TP 1700#, 20/64" CK, 25 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 6577 BBLS LEFT TO RECOVER: 5639

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 6/27/2011	☐ ACIDIZE	☐ ALTER CASING	✓ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Wellhead Repair

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval to conduct wellhead/casing repair operations on the subject well location. Please find the attached procedure for the proposed repair work on the subject well location.

Approved by the Utah Division of Oil, Gas and Mining

Date: 07/11/2011

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Gina Becker	720 929-6086	Regulatory Analyst II
SIGNATURE N/A		**DATE** 6/27/2011

RECEIVED Jun. 27, 2011

WORKORDER #:

Name: NBU 922-32J4CS – [922-32J3 PAD] 6/16/2011
Surface Location: NWSE Sec. 32, T9S, R22E
Uintah County, UT

API: 4304750446 LEASE#: ML-22649

ELEVATIONS: 4961' GL 4979' KB

TOTAL DEPTH: 9215' PBTD: 9165'

SURFACE CASING: 9 5/8", 36# J-55 @ 2154'

PRODUCTION CASING: 4 1/2", 11.6#, I-80 @ 9210'
TOC @ 606' per CBL

PERFORATIONS: Wasatch 6895' – 6917'
Mesaverde 6953' – 8737'

Tubular/Borehole	Drift inches	Collapse psi	Burst psi	Capacities		
				Gal./ft.	Cuft/ft.	Bbl./ft.
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624	0.02171	0.00387
4.5" 11.6# I-80	3.875	6350	7780	0.6528	0.0872	0.0155
9.625" 36# J-55	8.921	2020	3520	3.247	0.434	0.0773
Annular Capacities						
2.375" tbg. X 4 ½" 11.6# csg				0.4227	0.0565	0.01

GEOLOGICAL TOPS:

1200' Green River
1880' Mahogany
4430' Wasatch
6949' Mesaverde

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NBU 922-29M4DS– WELLHEAD REPAIR PROCEDURE

PREP-WORK PRIOR TO MIRU:

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.

2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.

3. Open casing valve and record pressures.

4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.

5. Open the relief valve and blow well down to the atmosphere.

6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.

7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

WORKOVER PROCEDURE:

1. MIRU workover rig.

2. Kill well with 10# brine / KCL (dictated by well pressure).

3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.

4. POOH w/ tubing laying down extra tubing.

5. Rig up wireline service. RIH and set CBP @ ~6845'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.

6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.

7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

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CUT/PATCH PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.

2. POOH, LD cutters and casing.

3. PU 7 3/8" overshot with 4 ½" right hand standard wicker grapple, 1 - 4 ¾" drill collar with 3 ½" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshot, POOH, and lay down.

4. TIH w/ skirted mill and dress off the fish top for approximately ½ hour. TOOH.

5. PU & RIH w/ 4 ½" 10k external casing patch on 4 ½" P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.

6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 3500 psi.

7. Install slips. Land casing w/ 80,000# tension.

8. Cut-off and dress 4 ½" casing stub.

9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6795'. Clean out to PBTD (9165').

10. POOH, land tbg and pump off POBS.

11. NUWH, RDMO. Turn well over to production ops.

BACK-OFF PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.

2. POOH, LD cutters and casing.

3. PU 4 ½" overshot. RIH, latch fish. Pick string weight to neutral.

4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.

5. Back-off casing, POOH.

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6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to ±7000 ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.

7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 3500 psi.

8. Install slips. Land casing w/ 80,000# tension.

9. Cut-off and dress 4 ½" casing stub.

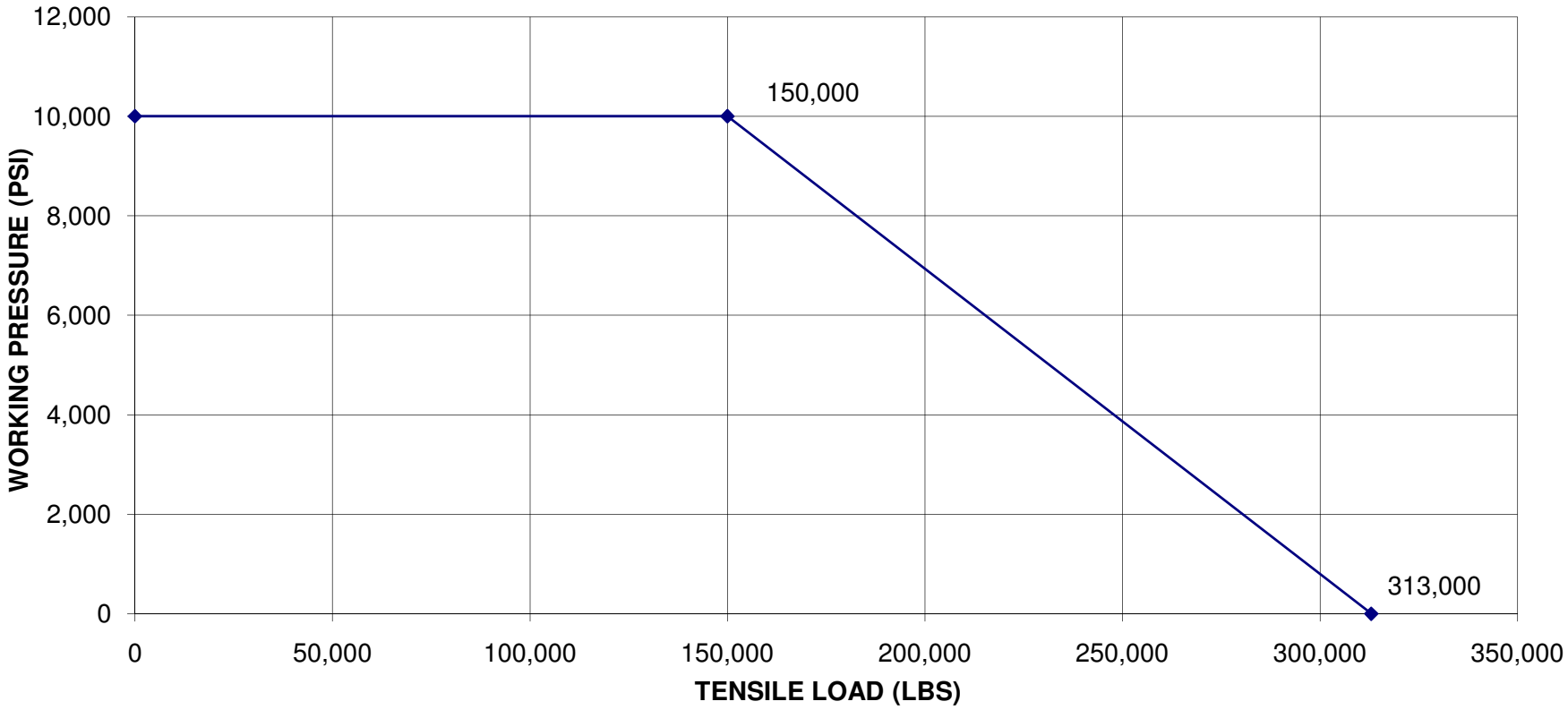
10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6795'. Clean out to PBTD (9165').

11. POOH, land tbg and pump off POBS.

12. NUWH, RDMO. Turn well over to production ops.

RECEIVED Jun. 27, 2011

STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L
LOGAN ASSEMBLY NO. 510L-005 -000



COLLAPSE PRESSURE:
11,222 PSI @ 0 TENSILE
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:
Tensile Strength w/ 0 Int. Press.= 472,791lbs.
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

Logan High Pressure Casing Patches
Assembly Procedure

All parts should be thoroughly greased before being assembled.

1. Install all four Logan Type “L” Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.

2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type “L” Packers.

3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.

4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.

5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.

6. Install the Cutlipped Guide into the lower end of the Bowl.

7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.

8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.

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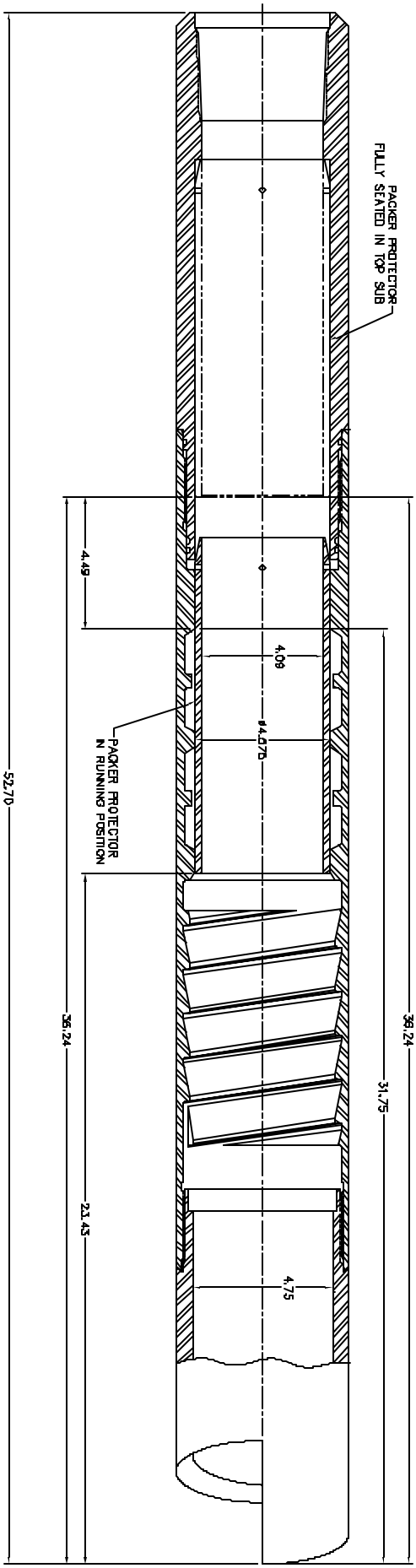

510L-005-001 4-1/2" LOGAN HP CASING PATCH

RECEIVED Jun. 27, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22649

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 922-32J4CS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047504460000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1453 FSL 2398 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWSE Section: 32 Township: 09.0S Range: 22.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	✓ CASING REPAIR
✓ SUBSEQUENT REPORT Date of Work Completion: 9/1/2011	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Wellhead Repair

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

THE OPERATOR HAS CONCLUDED WELLHEAD/CASING REPAIRS ON THE SUBJECT WELL LOCATION. PLEASE SEE THE ATTACHED CHRONOLOGICAL HISTORY FOR DETAILS OF THE OPERATIONS.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Gina Becker	720 929-6086	Regulatory Analyst II
SIGNATURE N/A		**DATE** 9/1/2011

RECEIVED Sep. 01, 2011

US ROCKIES REGION

Operation Summary Report

Well: NBU 922-32J4CS	Spud Conductor: 1/4/2010	Spud Date: 1/5/2010	
Project: UTAH-UINTAH	Site: NBU 922-32J3 PAD		Rig Name No: SWABBCO 6/6
Event: WELL WORK EXPENSE	Start Date: 8/12/2011		End Date: 8/16/2011
Active Datum: RKB @4,979.00ft (above Mean Sea Leve	UWI: NW/SE/0/9/S/22/E/32/0/0/26/PM/S/1,453.00/E/0/2,398.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/12/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA= WELL CONTROL
	7:15 - 15:00	7.75	WO/REP	30		P		FWP= 150 PSI MOVE IN SPOT RIG & EQUIP RU RIG CONTROL TUB W/ 20 BBLS TMAC ND WELLHEAD NU BOPS RU FLOOR & TUBING EQUIP CONTROL TUBING W/ 20 BBLS TMAC UNLAND TUBING LD HNGR POOH W/ 255 JNTS TUBING LD BHA RU W/L RIH W/ GAUGE RING TO 6900' POOH PU CIBP RIH SET @ 6850' POOH PU DUMP BAILER RIH DUMP 2 SKS CEM ON CIBP POOH RD W/L FILL HOLE W/ TMAC PRESS TEST TO 500# SIW SDFW
8/15/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA= CASING TONGS
	7:15 - 17:00	9.75	WO/REP	30		P		SIWP=0 ND BOPS ND WELLHEAD PU INT CUTTER CUT CSG BELOW PUP. LD PU OVERSHOT RIH OVER CSNG APPLY LH TORQUE. RU WIRELINE PU RIH W STRING SHOT. BACK OFF CSNG @ 1ST JNT. LAY ALL DOWN. PU 10'X4.5" PUP & JNT RIH MAKE ALL UP TO 7000# NPL UP TESTER & PULL 65000# TENSION TEST TO 3500# FOR 30 MIN. LOST 33# SET SLIPS NU WELLHEAD AND BOPS RU FLOOR & TBNG EQUIPMENT PU 3-7/8" BIT TIH TAG TOC @ 6820' PREP TO D/O IN A.M. SIW SDFN
8/16/2011	7:00 - 7:15	0.25	WO/REP	48		P		JSA=FOAM/AIR SAFETY
	7:15 - 17:00	9.75	WO/REP	30		P		SIWP=0 PSI EST CIRC W/FOAM/AIR UNIT DRILL THRU CMNT &CIBP@6850' W/0 PSI INCREASE RIH & CIRC CLEAN TO 8990' PUH LD 29 JNTS LAND WELL ON HNGR @ EOT 8094.68' ND BOP NU WELL HEAD P/O BIT SUB. RIH W/ 1.901" BROACH TO XN NIPPLE SIW RDMO.